TEXTILE WORLD

A McGraw-Hill Publication ---------- AUGUST • 1949

Technical Developments Flow From Research Unit

Page 93

COTTON-MILL WASTE Can Be Reduced

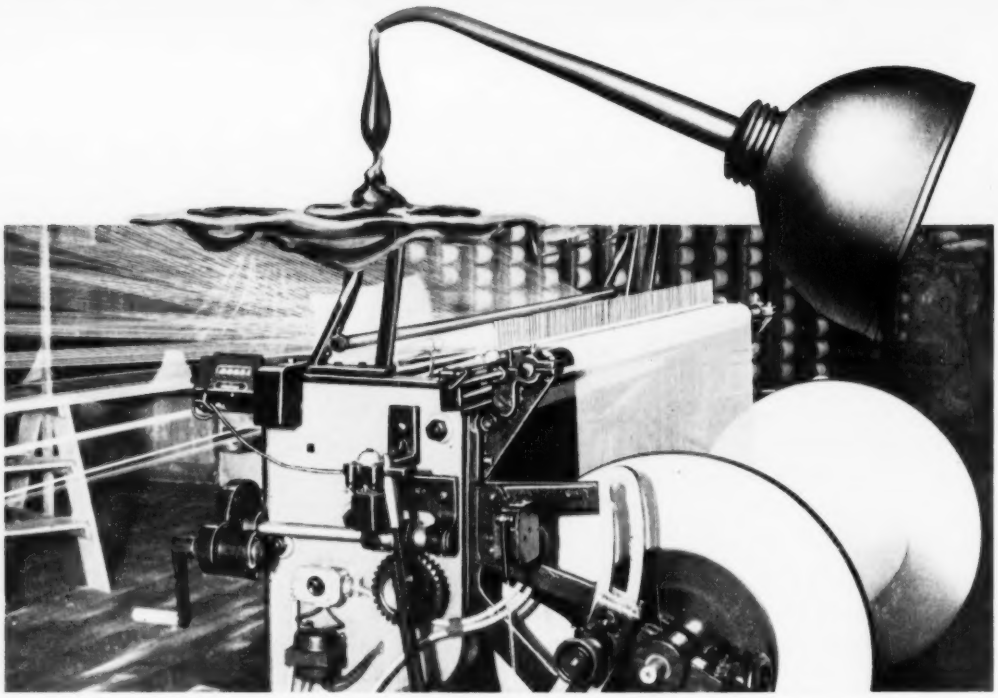
Maximum realistic waste-percentage standards must be established as the first step in a waste-cutting program. Closer supervision and investigation of process details are required. See page 131 for story.

You Can Overuse Nylon in WOOL BLENDS

Wear of nylon-wool socks will not be proportionately increased if over 8% nylon is used, a recent study shows. Read how wool-sock wear can be improved by use of nylon and by other methods; article begins on page 135.

Two-Floor CHAIN CONVEYOR Moves Full Sliver Cans

Pepperell Mfg. Co. moves 4,000 lb. of sliver hourly between cards, drawing frames, and roving frames at 7 fpm. on an overhead chain conveyor. Installation and application data start on page 100.



Look out... THAT OILCAN'S LOADED!

● Drop that oilcan . . . if you want to boost seconds into top grades, if you want to trim maintenance costs. There's no such thing as a little oil when even a drop now and then gets onto grid bars, or picks up a mess of fly, or saturates a belt. Any oil is too much oil. And tying up a crew of responsible workers squirting oil at bearings every shift or two is a competitive handicap you can't afford these days.

And it's foolishly oil-fashioned when it's so easy to replace oil-dripping, labor-wasting plain bearings with Fafnir Ball Bearing Units . . . grease lubricated and sealed against leakage and bearing contamination. Once a year greasing instead of once a shift oiling. No more oil spoilage but more quality goods from the same machines. Less lubricant and longer machine life.

There's a Fafnir Ball Bearing or complete unit for every spot, for every standard textile machine, for every textile operation from opening to finishing. Each of these bearings is the most advanced design, such as the Fafnir Wide Inner Ring construction with the Self-Locking Collar, easiest of all bearings to install and remove. Available in all sizes from your nearby Fafnir distributor. The Fafnir Bearing Company, New Britain, Conn.

THE FAFNIR PLYA-SEAL BALL BEARING. Plya-Seals, with which this bearing is protected, are composed of a flat, flexible washer of synthetic rubber-impregnated fabric and a split retaining ring of spring steel. Excludes dirt, dust and moisture and effectively retains lubricant. Easily removed for inspection or relubrication and just as easily replaced. One of the many sealed and shielded Fafnir Ball Bearings used in the textile industry.

THE FAFNIR TREADLE ROLL BALL BEARING UNIT. The ball bearing in this unit is completely protected by Plya-Seals on both sides. Carefully prelubricated with the correct amount of specific lubricant to resist high humidity and oxidation. Sizes for all standard makes and models of looms.

FAFNIR

BALL BEARINGS

MOST COMPLETE LINE IN AMERICA

TEXTILE WORLD, Vol. 99, No. 8, August, 1949. Published monthly McGraw-Hill Publishing Co., Inc. (Braodon, Lord & Nagle Division). Publication Office, 99-129 North Broadway, Albany, N. Y. RETURN POSTAGE GUARANTEED. Editorial and Executive Office, 330 W. 42nd Street, New York 18, N. Y. Allow at least ten days for change of address.

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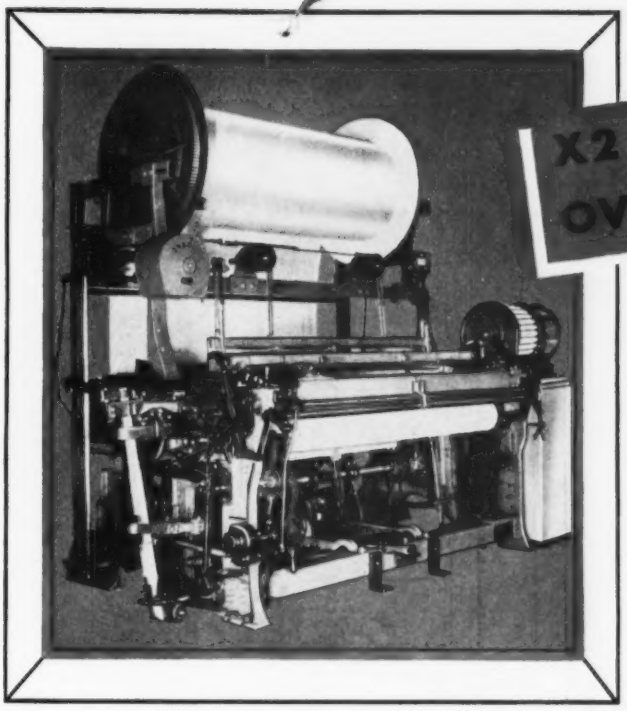


X2 LOOM-with OVERHEAD BEAM

★ *32" Beam holds 120% more yarn than a 22" Beam!*

★ *Cuts Slashing Costs!*

★ *Decreases End Waste!*

Larger warp packages cut down slashing, drawing-in, and warp handling costs. The Draper overhead beam installation enables you to adopt larger yarn beams without eliminating any looms, as a loom with a 32" beam in the overhead position occupies the same floor space as one with a 22" beam in the conventional position.

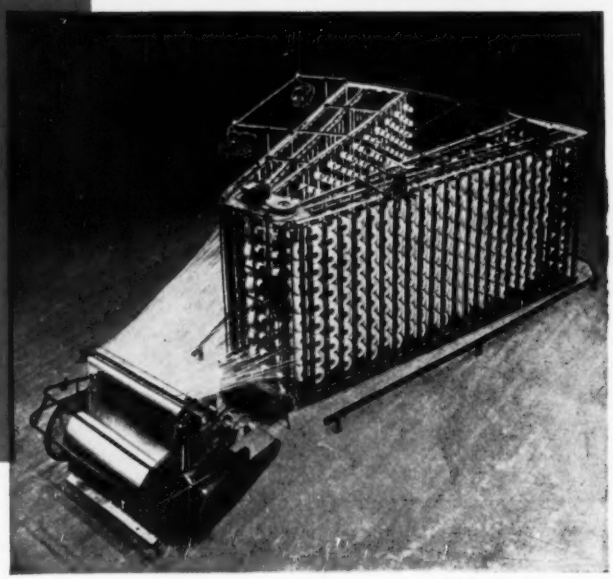
Developed for the X-2, X, and E Model looms the 32" overhead beam holds 120.6% more yarn than the 22" beam. Think what this means to your mill—longer runs for warps and thus less down time for your looms, production rises—costs fall.

Weaving conditions are improved because with the overhead beam installation, "warp stretch" is increased and "warp jumping" due to worn bearings is eliminated. Warps are kept clean because they are high and away from nearby looms when the standard blowing-off system most mills employ is in operation. Used in connection with an overhead monorail, the loom fixer's job of putting in the beam is simplified.

Can you afford to overlook a way to cut costs and increase production at the same time? The Draper overhead beam is your answer if you are weaving coarse greige goods.

D **DRAPER CORPORATION**
HOPEDALE MASSACHUSETTS U. S. A.

Assure King-Size Savings



Use Texaco Regal Starfak in anti-friction bearings and reduce costs 3 ways

THREE costs come down when you use *Texaco Regal Starfak* for high speed bearings—your bearing maintenance costs, your production costs, and your lubrication costs.

Texaco Regal Starfak is a highly stable lubricant. It stands up under severe conditions, resists oxidation and gum formation, separation and leakage. Temperature changes have virtually no effect on it. Thus, your grease-lubricated ball and roller bearings last longer, require less servicing. And, because *Texaco Regal Starfak* lasts longer, fewer applications are needed.

With *Texaco Regal Starfak* machines can operate faster, with fewer interruptions in production. Output is greater . . . and power consumption is less because *Texaco Regal Starfak* reduces "drag" in starting and running.

Let a Texaco Lubrication Engineer show you the advantages and savings possible with Texaco lubrication throughout your mill. Just call the nearest of the more than 2300 Texaco Wholesale Distributing Plants in the 48 States, or write The Texas Company, 135 East 42nd St., New York 17.

TEXACO

TEXACO Lubricants

FOR THE TEXTILE INDUSTRY

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THE *Long-Range* VIEW

Higher OPERATOR Production

Now that emphasis has shifted almost completely from high volume to lowest possible unit cost, some progressive mills are rediscovering the advantages of getting greatest operator production at the expense of machine efficiency.

Many years ago, it was found in some textile operations that machine cost per unit produced was only a tiny fraction of labor cost. Today that situation holds in many operations. But even so, many plant managers continue to brag about 95 and 98% efficiency without a full realization of how much they are paying to make a "record."

You can be sure that to get highest machine efficiency there must be many periods during which the operator is waiting for his machines. When the machine cost per unit, everything considered, is less than the labor cost, the exact opposite should hold: there should always be machines (or parts of machines) waiting for the attention of the operator. Of course there are other elements that must be considered, such as waste and quality; but the foregoing definitely holds true if those other elements are reasonably constant.

Winding operations are often excellent examples of jobs in which it pays to sacrifice machine efficiency for high operator production. The way higher output per worker is achieved is by (1) always having ends down for the operator to work on, (2) prohibiting any backtracking by the operator; (3) not wasting time unduly on troublesome or out-of-fix units, and (4) not making frequent changes in the type of work being done.

All of the foregoing means of increasing operator production (at no increase in effort) apply also to weaving. In addition, strict cyclic operation (no backtracking) can improve the quality of cloth if the cycle is so timed that the weaver sees every inch of the cloth he weaves before it goes over the breastbeam or before it goes around the take-up.

We cannot develop here all the angles involved in this method of cutting costs, but we should be remiss if we did not point out a potential danger.

Going to high operator production at the expense of machine efficiency involves a change in the basic concepts on the part of workers. Unless some advance educating is done by management to prepare operators for the change, the shift in emphasis may run into serious employee objections.

At present, most operators think of their work either in terms of getting so much production (in pounds, yards, or some other units) or in terms of keeping a certain fixed number of machines running. Actually, in the first case, the operators usually have a very fallacious concept—the machines turn out the production; the operators' real work only incidentally ties in to the pounds or yards of textiles produced. In the second case, the number of units tended also is only incidental—the real factor is the amount of work the operator does. This amount of work, stated in minutes of effort, is reasonably constant whereas the number of machines tended can vary widely. These fallacious concepts on the part of workers are fit material for subsequent editorials. We can go only far enough here to point them out. Be sure to consider the attitude of your employees toward any fundamental change such as the one we are highlighting here.

You yourself may need to change your attitude toward the amount of equipment you need and your utilization of it as you get the facts of how your costs can be cut through higher operator production. You may find, as one mill did, that it could easily afford to pay for a half-dozen additional machines *to get out the same weekly production as formerly.*

Labor costs on an hourly basis cannot be expected to come down much. Machine costs per textile unit produced are usually very little. Get the facts in your plant and you will have a good key to reducing costs through higher operator production.

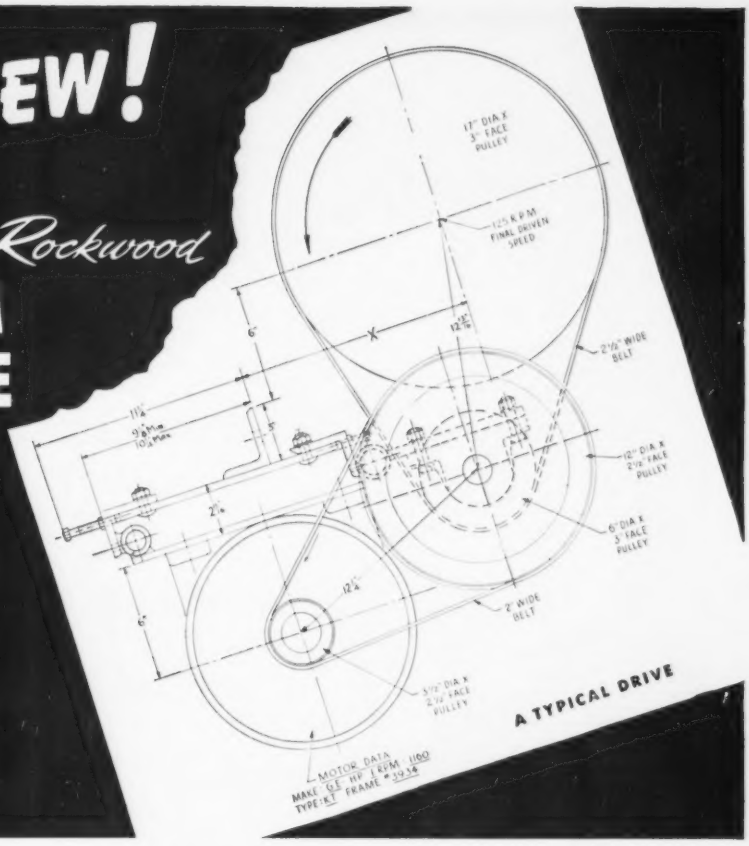
C. H. Bendigo

IT'S NEW!

RHOADS

Tannate-Rockwood

LOOM DRIVE



A TYPICAL DRIVE

MAXIMUM PRODUCTION! REDUCE SHOCK-VIBRATION!

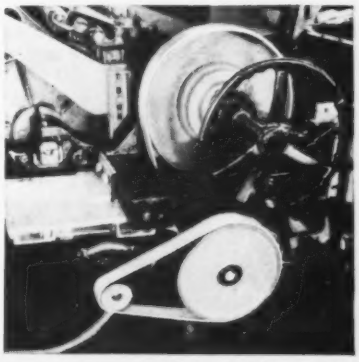
THE ideal "packaged unit" for reducing shock and vibration, and for increasing your production, is the NEW Rhoads TANNATE-Rockwood Loom Drive. The double pivoted motor base automatically maintains a constant, uniform belt tension, assuring maximum power delivery.

When a change in speed is desired, simply remove the motor pulley from the tapered motor shaft and replace with a pulley of the required diameter.

TANNATE Belting is an important factor of this drive arrangement because of its maximum grip with minimum tension . . . For top-most efficiency, specify Rhoads TANNATE-Rockwood Loom Drive. Let our men who have been working with these drives give you full particulars.

A TANNATE-Rockwood Loom Drive consists of:

- New Double Pivoted Rockwood Base
- Motor Pulley
- Motor Belt
- Two Intermediate Shaft Pulleys
- Intermediate Shaft
- Loom Belt



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ITEM		
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MAN HOURS PER SHIFT	Reduced 47%	325 before SACO-LOWELLizing 172 after
WEIGHT OF BOBBIN	Increased 400%	2 oz. net, before 10 oz. net, after
RING SIZE	Increased 50%	2 inch, before 3 inch, after
TRAVERSE	Increased 20%	7½ inch, before 9 inch, after
DOFFING PERIOD	Increased 175%	every few minutes, before every 2 to 6 hours, after

NO LOSS IN PRODUCTION with 39% FEWER SPINDLES! ...an actual "CASE HISTORY"

(Typical conversation between Mill Superintendent and President)

"Look at this, Curtis..

just look at this chart! Any one of these factors translated into dollars gives us an impressive saving. We have known for a long time that we should start modernizing our Spinning Room! If *that* mill could make such savings so can we — and I recommend that we start on a program at once to...

SACO-LOWELLize

this mill from one end to the other. The future of our mill depends on it. We must impress the directors with the need for approving such a program!"

"Yes, you are right. We've got to do it now or we will certainly lose the favorable competitive position we have thus far managed to maintain. Let's make this program a matter of priority."

NOTE: Conversations like this are every-day occurrences in forward-thinking mills that, up to now, have been able to ride along on the wave of wartime prosperity. Our engineers will be glad to consult with any mill interested in better production, increased efficiency, and lower operating costs.

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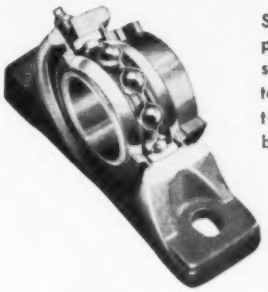
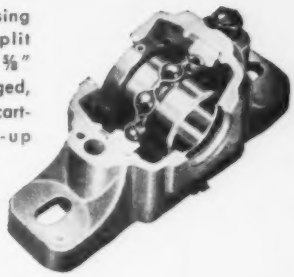


Solid or split housing pillow blocks (solid shown) for shafts 5/8" to 3 15/16"—also flanged, take-up, and hanger blocks.

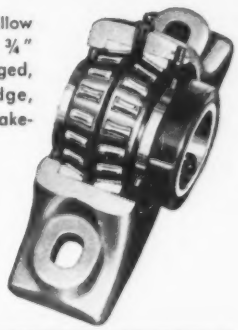
Series 300 ball bearings

Solid or split housing pillow blocks (split shown) for shafts 5/8" to 3 15/16". Also flanged, flanged cartridge, cartridge and take-up blocks.



Series 400 roller bearings

Solid housing pillow blocks for shafts 3/4" to 4"—also flanged, flanged cartridge, cartridge and take-up blocks.

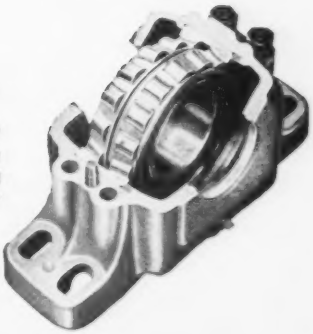


Series 6800-6900 roller bearings

Split housing pillow blocks with adapter sleeves for mounting on commercial shafting of 1 7/16" to 6 15/16" diameter.

Series 7800-7900 roller bearings

Split housing pillow blocks for press-fit on precision-turned shafting of 1.7700" to 7.4800" diameter.



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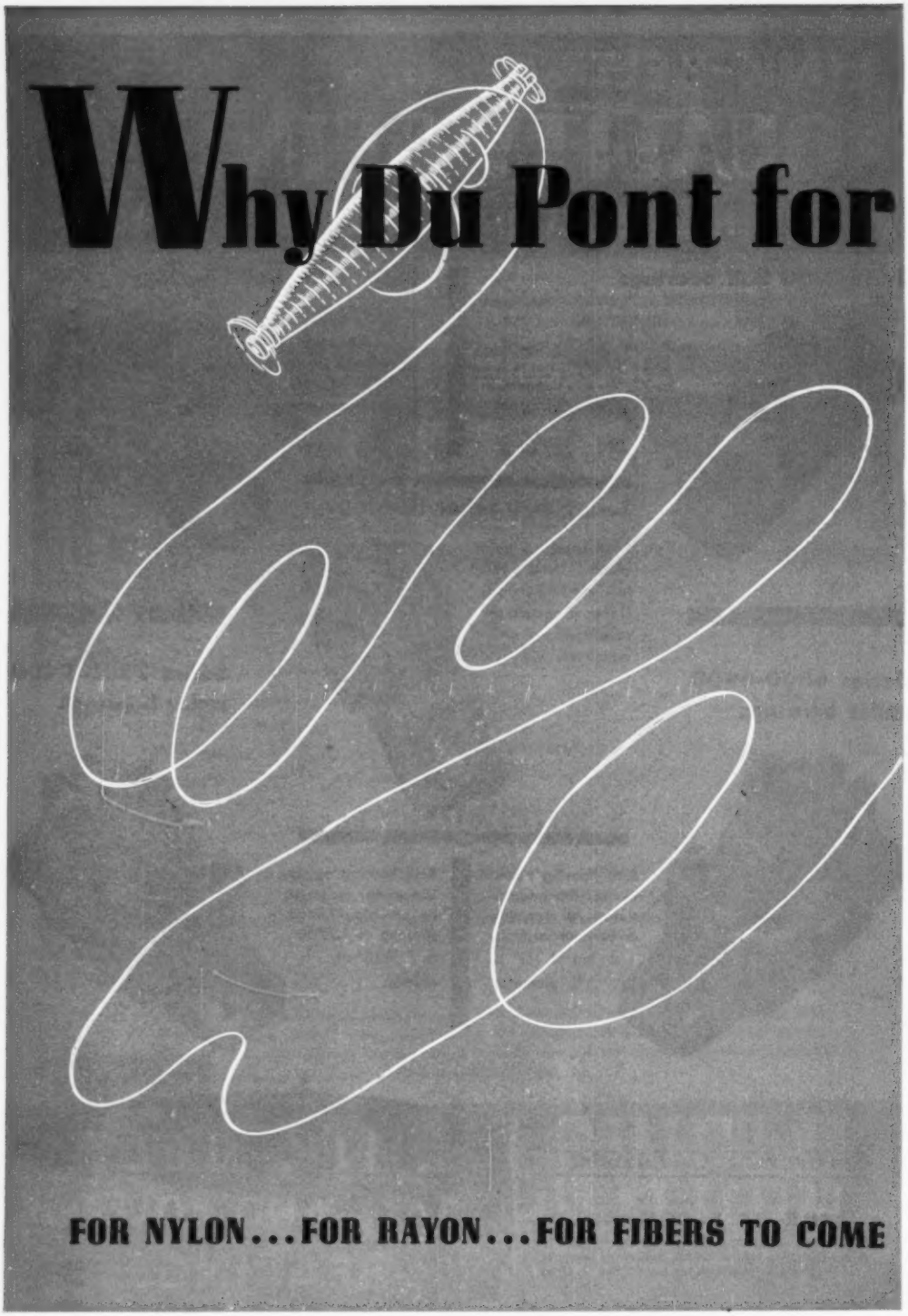
LINK-BELT BALL AND ROLLER BEARINGS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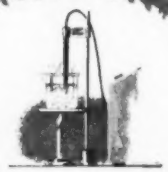
Chemical durability—excellent in the strongest acids and alkalis . . . even at elevated temperatures!



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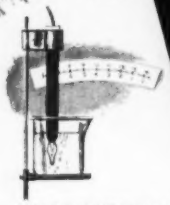
Now- NEW BECKMAN pH Electrodes



UNPRECEDENTED pH RANGE!

0 to 14 pH—with the high-temperature high-pH glass . . . *only small reproducible deviation near extreme limits, even at high temperatures.*

0 to 11 pH—at room temperature and 0 to 10 pH at boiling for the general-purpose glass . . . *without* correction for sodium ions!

IMPROVED CONSTRUCTION!

Simplified, heat-resistant construction eliminates wax filling . . . retains patented Beckman internal shielding . . . increases measurement precision.

Only *Beckman Glass Electrodes* offer all of these features:

▶ **RAPID RESPONSE** . . . accuracy with speed and convenience.

▶ **STABILITY** . . . to match the high precision of BECKMAN pH METERS.

▶ **INTERNAL SHIELDING** . . . gives complete freedom from outside electrostatic interference.

▶ **INTEGRAL LEADS** . . . Continuous insulation into the electrode . . . connections located on protected panel board.

▶ **EXTREME TEMPERATURE RANGE** . . . Several types permit use from below freezing to boiling *and above!*

▶ **ENTIRE pH SCALE** . . . *Very small* sodium ion errors . . . *e.g.*, with high-temperature high-pH glass, only 0.2 pH deviation at 13.7 pH in 1 N sodium hydroxide.

▶ **FACTORY SEALED** . . . rigidly tested . . . no maintenance.

▶ **UNIQUE CHEMICAL DURABILITY** . . . in alkali . . . in acid . . . in dilute solutions.

And . . . *REALLY TOUGH* . . . can even be used as a stirring rod!

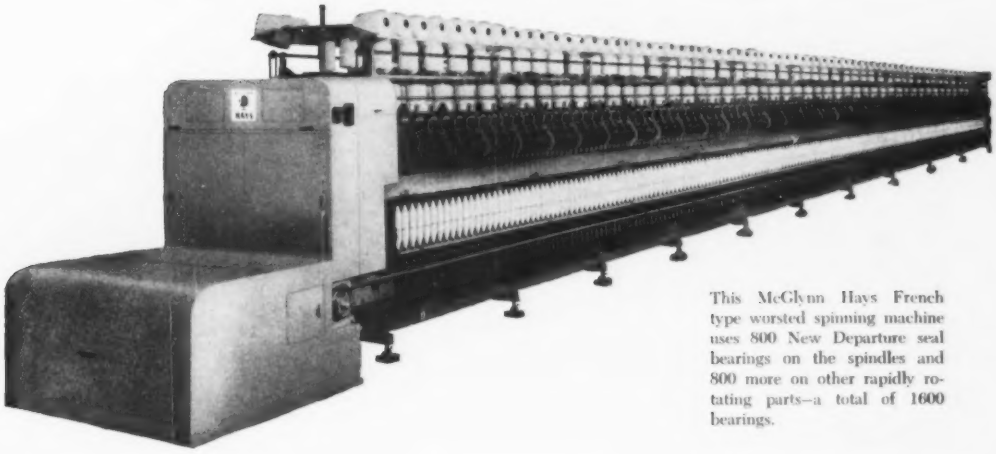
These new electrode glasses are now being used in several Beckman electrode styles. As rapidly as possible, they will be available in the full line of Beckman Glass Electrodes.

Constant Research over the years has maintained Beckman Leadership in the instrumentation field . . .
—***Beckman pH Meters and Glass Electrodes***
—***Beckman Ultraviolet, Visible and Infrared Spectrophotometers***
—***Beckman Radioactivity Meters and Special Instruments . . . Unsurpassed for Reliability!***

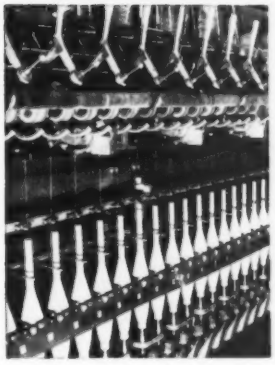
BECKMAN INSTRUMENTS
control modern industries

BECKMAN INSTRUMENTS • National Technical Laboratories, South Pasadena 12, California

For Higher Speeds . . Lower Maintenance . . Longer Life



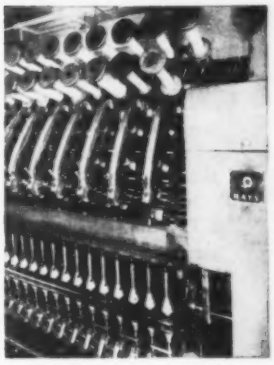
This McGlynn Hays French type worsted spinning machine uses 800 New Departure seal bearings on the spindles and 800 more on other rapidly rotating parts—a total of 1600 bearings.



Close-up of spindles on French type spinning frame, each of which is carried on two New Departure self-sealed ball bearings, for speed, cleanliness and long life.

In designing for smooth, continuous high speed operation—for high spindle speeds with minimum vibration, McGlynn Hays uses New Departure ball bearings for all fast moving parts in both French and Bradford type spinning machines.

For spindles, pressure rolls, bobbin and cam shafts, gear box, tape drums and tension pulleys, New Departure ball bearings give lower power requirements, minimum attention for lubrication or adjustments, cleaner, oil-free parts and greater overall efficiency.



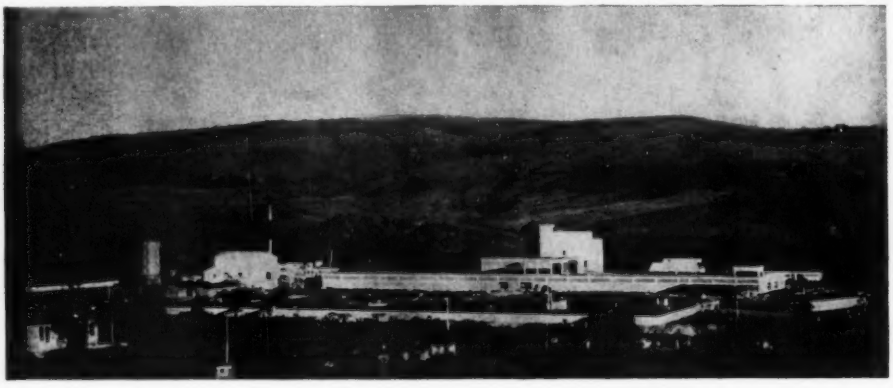
Close-up of McGlynn Hays Bradford type spinning frame with spindles, pressure rolls and other parts on New Departure sealed ball bearings—a total of 2400 bearings.

Nothing Rolls Like a Ball

NEW DEPARTURE
BALL BEARINGS

NEW DEPARTURE • *Division of* GENERAL MOTORS CORPORATION • BRISTOL, CONNECTICUT • BRANCHES IN ALL PRINCIPAL CITIES

KOHORN



More Rayon for Chile

Rayon made by this modern new plant, the largest in Chile, costs less than imported yarn. This saving and benefit to the country's balance of trade is the result desired by Textile Manufacturers and Investors who promoted and supported construction of the plant.

It was built in seventeen months by Oscar Kohorn & Co., Ltd.—the world's leading builders of rayon plants and rayon machinery. Kohorn experts are technical managers of the plant, until the local staff gains sufficient experience to take over. Since 1948, the plant's output has aided the Chilean textile industry and the national economy.

Domestic markets of other countries can profitably be supplied by local rayon plants. With Kohorn engineering, rayon machinery and technical management a new rayon plant is certain to be built quickly and to produce efficiently, employing local labor and engineers.

Kohorn brings to your project over thirty-five years' skill and experience in Designing, Equipping and Operating complete rayon plants. Write for further information without obligation.

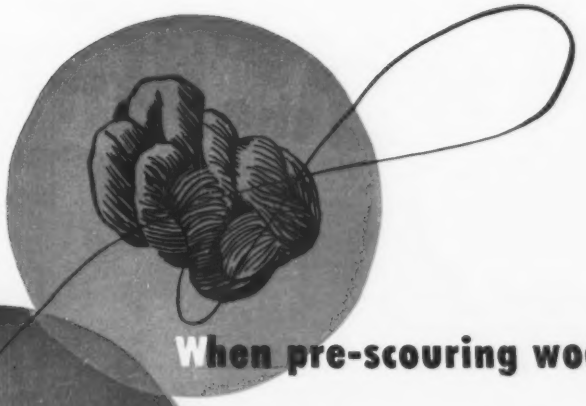
Complete Plants for the manufacture of Filament Rayon, Rayon Staple Fiber and Cellophane equipped in 12 months

OSCAR KOHORN & CO., LTD.

EXECUTIVE OFFICES

501 FIFTH AVE. NEW YORK 17, N. Y., U. S. A.

—— Pioneers of the Rayon Industry ——



When pre-scouring wool skeins

use 2% to 4% Nacconol NR*

AMERICA'S LEADING SYNTHETIC DETERGENT

plus Soda Ash or Sodium Chloride**

get

CLEANER YARN Complete removal of waxes, pectins & mineral, animal or vegetable lubricating oils.

UNIFORM DYEING

LOWER PROCESSING COSTS

FASTER SCOURING FREER RINSING

Ample Nacconol available for all textile uses. For price and delivery, write, wire or phone our nearest office.

NATIONAL ANILINE DIVISION ALLIED CHEMICAL & DYE CORPORATION
40 RECTOR STREET, NEW YORK 6, N. Y. (BOwling Green 9-2240)

Boston, Mass., 140 Causeway St.	Capitol 0490	Greensboro, N. C., Jefferson Standard Bldg.	Greensboro 2-2518
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Chicago 10, Ill., 357 West Erie St.	SUperior 7-3387	Chattanooga 2, Tenn., James Building	Chattanooga 6-6347
Philadelphia 6, Pa., 200-204 S. Front St.	LOmbard 3-6382	New Orleans, La., Cotton Exchange Bldg.	Raymond 7228
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*Reg. U. S. Pat. Off.

**Write for full details on this effective use of NACCONOL NR.

Porch furniture by Bunting Glider Co., Philadelphia, Pa. *Cohyde Upholstery by Cotan Corp., Newark, N. J.*

THAT'S how the customers feel since the Bunting Glider Company upholstered its line of outdoor furniture with Cohyde containing Hycar. For this new plastic material has a long string of advantages porch sitters welcome.

Cohyde is a vinyl-type coated fabric in which Hycar, a nitrile type rubber, acts as the plasticizer. This new blend, besides producing a waterproof fabric that wears like elephant hide, won't crack or peel, and is actually resistant to flame. It is not injured by alcohol, acids, grease, oils or exposure to salt water. It never "bleeds" color onto your clothes and it never feels clammy, even in hot weather—thanks to Hycar!

What can Hycar do for you as a plasticizer or modifier for vinyls and other resins? This new development makes better products in many fields including upholstery, packaging, flooring, shoe, and paper.

If these uses for Hycar suggest an idea to you, or if you are interested in the many advantages this oil resistant rubber offers in the industrial field, let us know. You will find us eager to help. We make no finished products from Hycar but our technical service is always on hand to help you work out any special problems, or smooth the way for new applications. Write to B. F. Goodrich Chemical Company, Dept. L-4, Rose Bldg., Cleveland 15, Ohio. In Canada: Kitchener, Ontario.

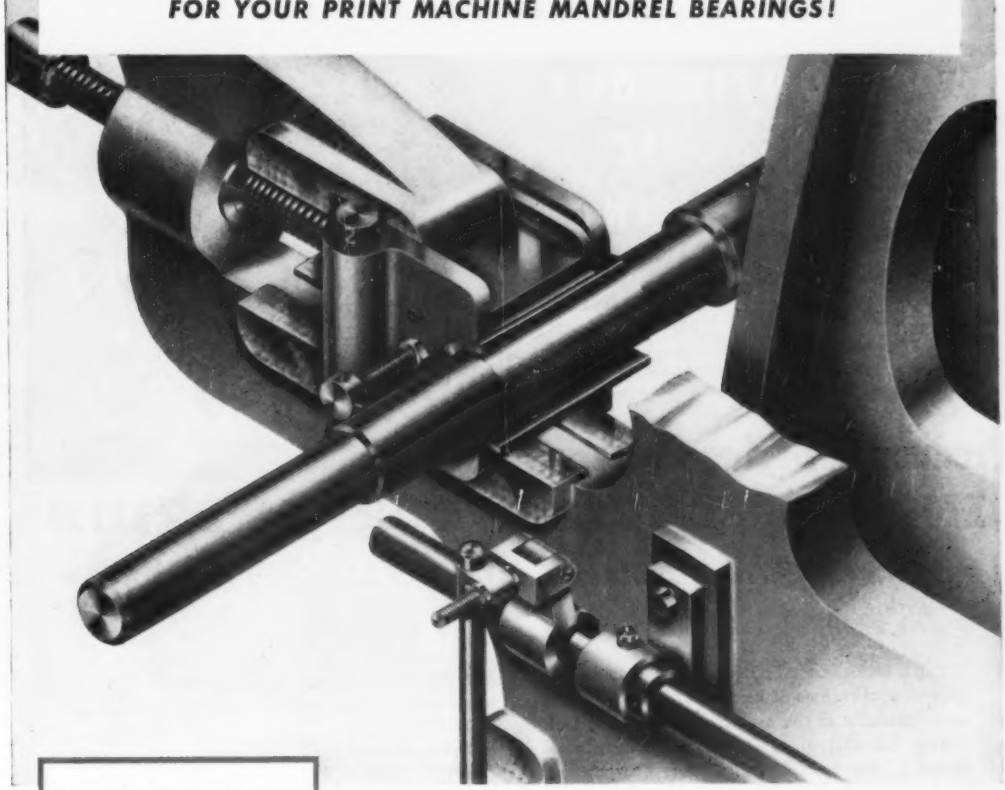
Hycar
Reg. U. S. Pat. Off.
American Rubber

B. F. Goodrich Chemical Company
A DIVISION OF THE B. F. GOODRICH COMPANY

GEON polyvinyl materials • HYCAR American rubber • GOOD-RITE chemicals and plasticizers

"SOLID PROTECTION"

FOR YOUR PRINT MACHINE MANDREL BEARINGS!



NEW HIGH TEMPERATURE GARGOYLE BLOCK GREASE

Won't Dry Out, Crumble, Melt or Squeeze Out.

★

Backed by 83 Years' Lubrication Experience.

★ ★

For CONTINUOUS PERFORMANCE Rely on the BEST!

This is one place in your textile mill where you really need "solid" protection . . . the mandrel bearings on your print machines. For here pressures mount to 800 lbs. per square inch. Temperatures go up with them. The answer is Socony-Vacuum's new high-temperature Gargoyle Block Grease—specially developed for high-pressure "hot spots" like this. This new grease stays put at temperatures up to 350° F., and over, maintains strong lubricating films, helps keep production rolling. Get details from your Socony-Vacuum Representative.

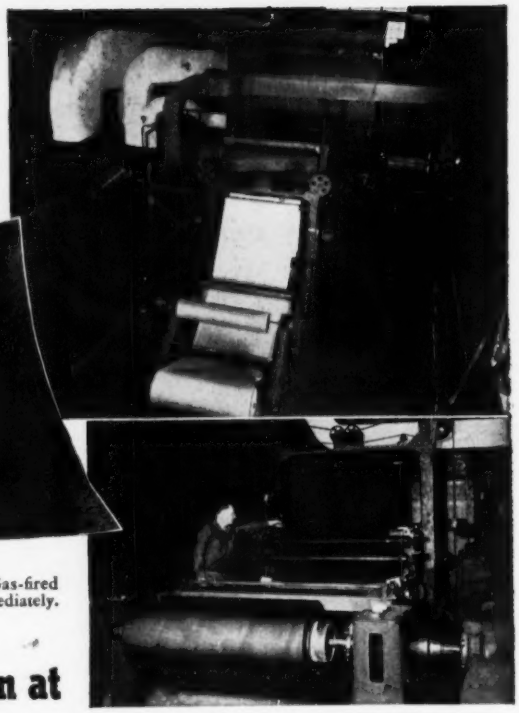
SOCONY-VACUUM GARGOYLE Lubricants

SOCONY-VACUUM OIL CO., INC.
and Affiliates: MAGNOLIA PETROLEUM CO.
GENERAL PETROLEUM CORPORATION

Rely on **SOCONY-VACUUM** *Correct Lubrication*

Gas-fired fabric latexing unit from entering end. Cord fabric passes through the dryer after impregnation with rubber or rubber-like material.

CONTINUOUS FABRIC LATEXING



Impregnated fabric leaves the Gas-fired unit dry enough to be spooled immediately.

Production Drying Operation at

INLAND RUBBER CORPORATION

Demonstrates Speed of GAS

LATEX IMPREGNATION is one of the important process applications of heat in which GAS serves so successfully as the high-speed production fuel.

First installation of its type, the continuous latexing system at Inland Rubber Corporation, Chicago, demonstrates efficient utilization of GAS for production-line drying. In this process a water-dispersed material of rubber or rubber-like solids is applied to cotton or rayon tire cord web. The dryer, operating at a speed of 28 yards per minute, reduces moisture content of the impregnated web to less than one per-cent.

Speed-heating with GAS in this modern continuous dryer is an important factor in the tire-cord production line at Inland Rubber Corporation. Executives cite these results—

- **Improved adherence of coating to tire-cord**
- **Minimized non-productive time due to rapid warm-up cycle**
- **Drying efficiency improved by automatic temperature control**
- **Reduction in maintenance costs with simplified equipment**
- **Economies in fuel costs over previous heat-processing medium**

Throughout the textile industry GAS serves the myriad heat-processing needs of production-minded executives. Efficient utilization of this flexible fuel as demonstrated at Inland Rubber Corporation, emphasizes the possibilities for maximum return on an investment in modern Gas Equipment for textile processing. They're worth investigating.

Continuous latexing system designed and installed by Industrial Ovens, Inc., Cleveland, engineers and manufacturers of heat processing equipment.

MORE AND MORE... THE TREND IS TO GAS FOR ALL INDUSTRIAL HEATING

AMERICAN GAS ASSOCIATION

420 LEXINGTON AVENUE • NEW YORK 17, NEW YORK

SANDOZ PRESENTS

the color achievement of the month

Our Blue Heaven ...BY LEES

Designed for a stairway to the stars is this Lees carpet of fine imported wool . . . rich and resilient in texture . . . artfully constructed for long wear . . . and colored for current decorative taste.

Because carpets—unlike many garments which are discarded after a season or two of wear — are expected to serve faithfully for many a year, carpet-makers like James Lees and Sons Company use Sandoz dyestuffs for long-lived color fastness.

Such delicate shades as Lees' "Biscayne Blue" stand the test of time — dirt, wear, sun and cleaning — when dyed with these famous blues from Sandoz laboratories:

BRILLIANT ALIZARINE MILLING BLUE BL Pat.
BRILLIANT ALIZARINE MILLING BLUE G Pat.
ALIZARINE MILLING BLUE SL Pat.

And for any chrome, acid or direct dyes . . . or auxiliary chemicals . . . for both natural and synthetic fibres . . . be guided by the successful "color achievements" in these Sandoz ads.

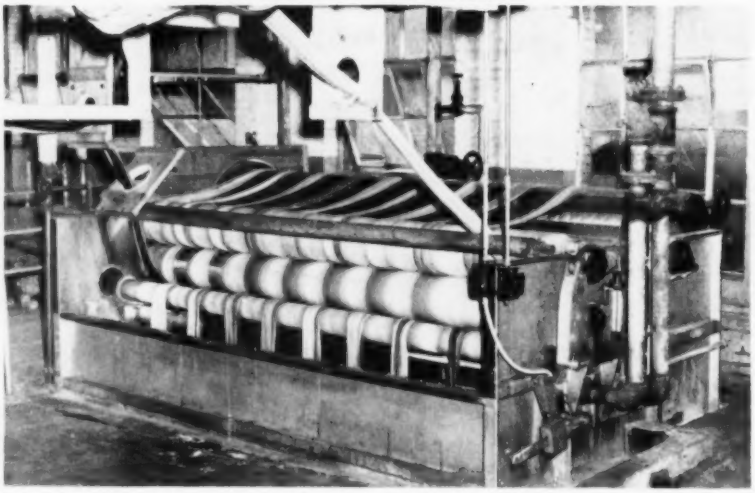
SANDOZ CHEMICAL WORKS, INC., 61 VAN DAM STREET, NEW YORK 13, N.Y.
Application laboratories and stocks at Boston, Philadelphia, Charlotte, Chicago, Los Angeles, Toronto • Other branches at Providence, Paterson and Montreal

SANDOZ *thinks ahead with textiles*

The Fleet Line

STAINLESS STEEL SLACK WASHER

"Jack-Of-All-Jobs"



The Fleet Line Stainless Steel Slack Washer has proved to be an efficient "Jack-of-all-jobs." In this particular installation it is used for washing back greys from the printing machines, for rope washing printed fabrics, and for the various small soaping jobs which are always to be done. Both all cotton, and spun rayon and cotton blends are handled in this machine. Operating speed, in most cases, is from 60 to 70 y.p.m., although higher speeds are possible if necessary.

You may wish to use the R & L Fleet Line Slack Washer for one particular job and with one type fabric, but it is still good to know you have a versatile washer on hand ready for *all* jobs.

RIGGS AND LOMBARD

INCORPORATED

FOOT OF SUFFOLK STREET • LOWELL, MASSACHUSETTS

Domestic Agents: Paul A. Merriam, 1491 Broad Street, Providence, R. I.; Harold C. Osler, 6312 Sherwood Road, Philadelphia, Pa.; Charles H. Dunker, 1236 South Maple Ave., Los Angeles 15, Calif.; Albert R. Breen, 80 East Jackson Blvd., Chicago 4, Ill.

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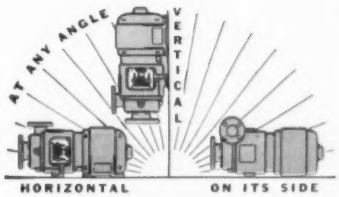
THE FLEET LINE: A complete line of modern equipment to successfully handle present day Wet-Finishing, Carbonizing and Dyeing requirements.

THE BACKBONE

of PRODUCTION

the Ingersoll-Rand MOTORPUMP



No matter what the processes in your phase of manufacture, there undoubtedly are pumps involved . . . pumps that are the backbone of your production. When you think of pumps in this light, dependable pumps mean continuous production.

When you talk about dependable close-coupled pumps you're talking about the INGERSOLL-RAND MOTORPUMP line. There are hundreds of sizes and models available to meet a multitude of conditions. These are compact, self-contained units built for heavy-duty service.

Each MOTORPUMP is just what the name implies . . . an electric motor and pump combined. Special motors are equipped with extra-heavy shafts and bearings. The pump with balanced impeller is assembled directly on the motor shaft. This compact construction gives perfect balance, vibrationless operation and extreme rigidity. The MOTORPUMP involves no large installation cost because it requires no special foundation, will operate efficiently in any position, horizontally, vertically, at any angle or on its side. Sizes ¼ to 40 horsepower . . . gallons to 1800 per minute . . . heads to 600 feet.

You can depend on Ingersoll-Rand MOTORPUMPS to ease your pumping headaches. Factory trained pump specialists from coast to coast are always ready to help you and can give you prompt shipment.

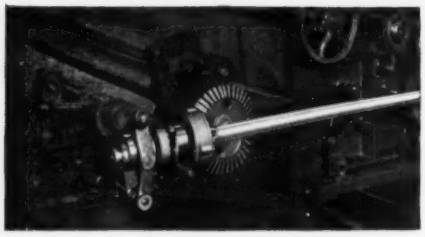
COMPRESSORS
TURBO BLOWERS
OIL & GAS ENGINES
PUMPS
CONDENSERS
AIR TOOLS
ROCK DRILLS

Ingersoll-Rand

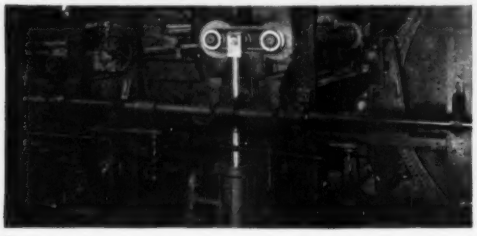
Cameron Pump Division 423-9
11 Broadway, New York 4, N. Y.

A. 2 MAGAZINE CREELS *are mounted on track-guided casters permitting quick change of beam sets. Creels are equipped with new type friction release eliminating undue yarn strain at high speeds. Creels constructed of heavy steel sections. Beam gudgeons are in anti-friction bearings. Adjustable beam stands provide easy alignment of beams.*

B. STEAM COIL HOOD *over size box area conserves heat, permits high-speed sizing at lower cost. Coils are covered with heavy gauge copper and equipped with temperature controls for accurate regulation, top operating efficiency. A steel and copper hood covers the entire cylinder and size box sections, provides complete removal of vapors and rapid, efficient drying of yarn at lower steam cost.*

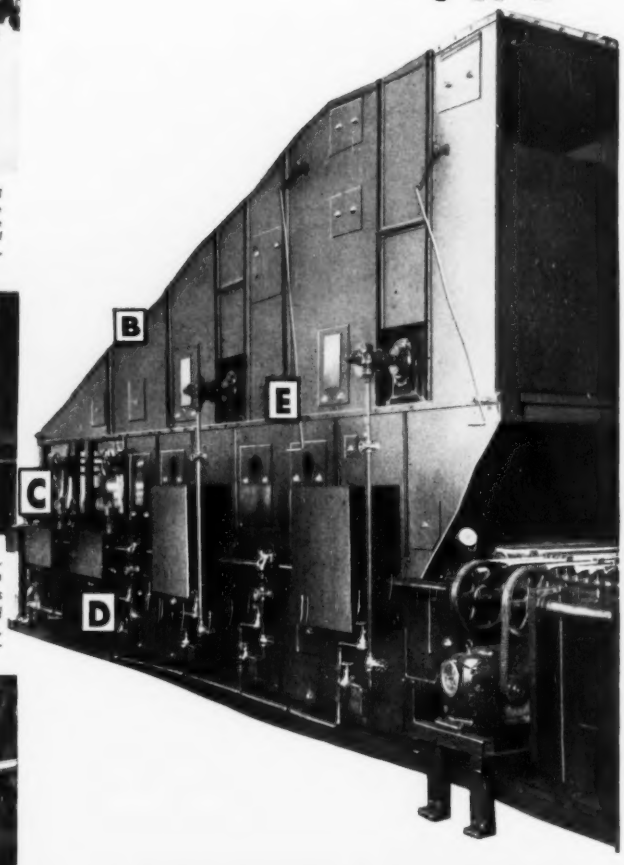


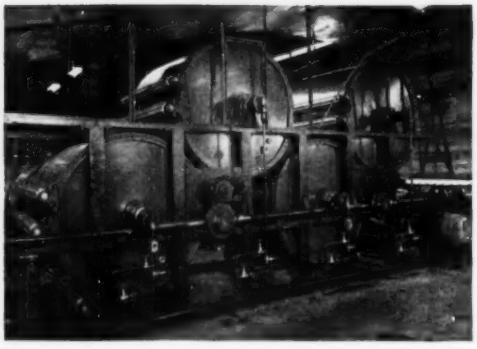
C. STRETCH CONTROL UNIT *equalizes yarn tension, delivers yarn to squeeze rolls at uniform speed without stretch, permits slasher to run at higher speeds, delivers yarn of uniform strength and elasticity to weave room and improves weaving efficiency and fabric quality.*



D. PNEUMATIC SQUEEZE ROLL LIFT *eliminates time loss, permits accurate pressure control. Size boxes (either tandem or single) are extra large, sturdily constructed, equipped with 10" brass-ribbed immersion roll, 9" copper size rolls. All carried on heavy, trouble-free antifriction bearings for high speed and high temperature operation.*

THE





E. FOUR 5' CYLINDERS *give increased drying capacity at high speed, temperatures and pressures. All shafting supported in anti-friction bearings. Improved joints on steam and condensation pipes eliminate old style stuffing boxes and glands. Patented gear release on positive drive for cylinders automatically maintains yarn tension.*

HI-SPEED SLASHER

An Efficient, Unified SLASHING SYSTEM

BETTER QUALITY YARN AT DOUBLE ORDINARY SPEEDS

EFFICIENCY PROVED IN ACTUAL MILL TESTS

AUTOMATIC CONTROLS ON SIZE PREPARATION, CYLINDER TEMPERATURES, YARN STRETCH, SLASHER SPEEDS

LOWER OPERATING COSTS

INCREASED WEAVE ROOM EFFICIENCY

BETTER QUALITY FABRICS

This Hi-Speed Slasher is the result of research and testing. Each element from the magazine type creels to the head end are designed to function as a high-speed production unit.

In comparison to an ordinary two-cylinder slasher, limited to 30 to 45 yards per minute, the Hi-Speed Slasher operates efficiently at more than double this, and constantly produces a better quality yarn.

Modern, automatic controls for steam and size temperatures, size level, yarn stretch and speeds assure uniform sizing, elasticity and strength of warp. Costly guess-work adjustments are eliminated.

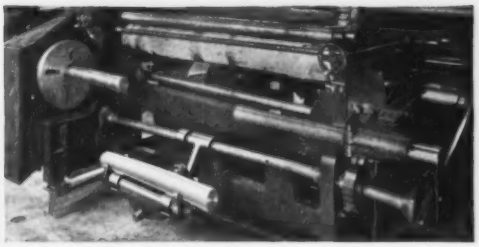
Because of its high-per-hour output and smooth operating efficiency this advanced Slasher reduces slashing cost to a new low.

The Hi-Speed Slasher System is strictly a high-production machine, custom built to fill your slashing and production requirements. It will pay for itself by increasing efficiency—lowering production costs.

We will be glad to send you detailed information on its many advanced features. Or, if you like, make a survey in your slasher room.

WEST POINT FOUNDRY & MACHINE CO.
WEST POINT, GEORGIA

F. MULTI-MOTOR DRIVE *on several rolls provides easy adjustment and positive control of yarn tension and stretch, beams are uniformly wound. Better quality is assured because excessive yarn stretch is eliminated. Accurate meters are used rather than guess work, to set predetermined yarn tension.*

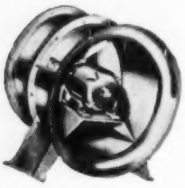


G. TRAVERSING PRESS ROLL *automatically aligns itself with loom beam, uniformly traverses from one loom head to another, permits winding 10% more yarn on each beam smoothly, firmly. Pressure adjusted by easily-set sliding weight.*

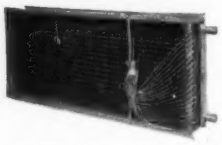
H. HEAD END *on the WPF&M Hi-Speed Slasher is vastly improved. Multi-motors replace old style friction and speed cones. Output speed is readily adjusted while running or, at pre-set speeds, the ratio change from low to required speed is automatic and accurate.*

MORE FEATURES THAT REALLY COUNT-- IN THESE STURTEVANT HEATERS

REFRIGERATION COMPRESSORS



AXIAL FLOW FANS



HEATING AND COOLING COILS

Why? Because these heaters are the product of the combined experience of two great leaders—Westinghouse in electricity; Sturtevant in heating and ventilating. This means, too, that you get undivided responsibility, superior performance and a wide range of capacities to choose from — assuring the most efficient heater to fit your particular needs. For years of uninterrupted heating service, get in touch with your nearest Sturtevant office, or, write Westinghouse Electric Corporation, Sturtevant Division, Hyde Park, Boston 36, Mass.

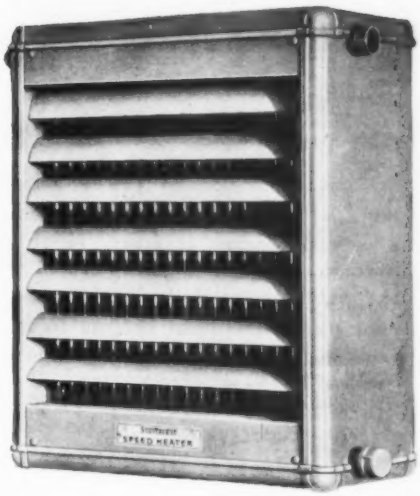
Everything that puts air to work for Every application

REFRIGERATION CONDENSERS

CENTRIFUGAL FANS

UNIT AIR CONDITIONERS

J-50144

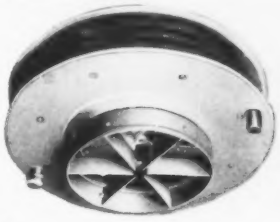


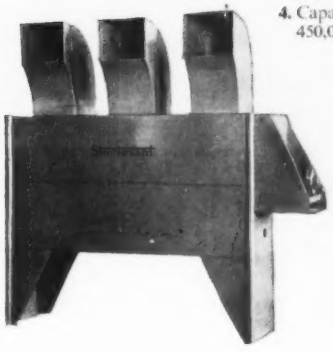
SPEEDHEATER®

1. Fast Heat Delivery—Assured by efficient, quiet-operating fan
2. Low Maintenance Cost—Single-row radiator assures uniform tube expansion, freedom from radiator distortion. Longer life. Tested for 200-lbs. steam pressure
3. Dependable Westinghouse Motor—Backed by nationwide Motor Service Plan
4. Simplified Installation—Inlet and outlet connections on either side
5. Easily formed Handy Hangers—At no extra cost
6. Capacities—From 25,000 to 300,000 Btuh

DOWNBLAST SPEEDHEATER

1. Excellent Heat Distribution for High-ceiling Applications
2. Greatly Reduced Ceiling Heat Loss, Lower Fuel Costs
3. Connections on Both Sides Save Piping Costs
4. Capacities From 40,000 to 450,000 Btuh

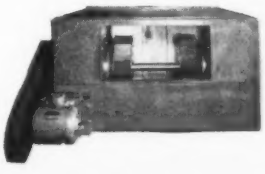




MULTIVANE HEATER

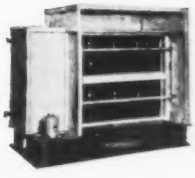
1. Large Volumes of Heated Air, Evenly Distributed
2. Rugged, Simple Construction; Working Parts Easily Accessible
3. Installed on Floor, Wall or Ceiling
4. Capacities, 44,100 to 1,177,000 Btuh

Westinghouse
Sturtevant Division



AIR HANDLING UNITS

PRECIPITRON®
(ELECTRONIC AIR CLEANER)

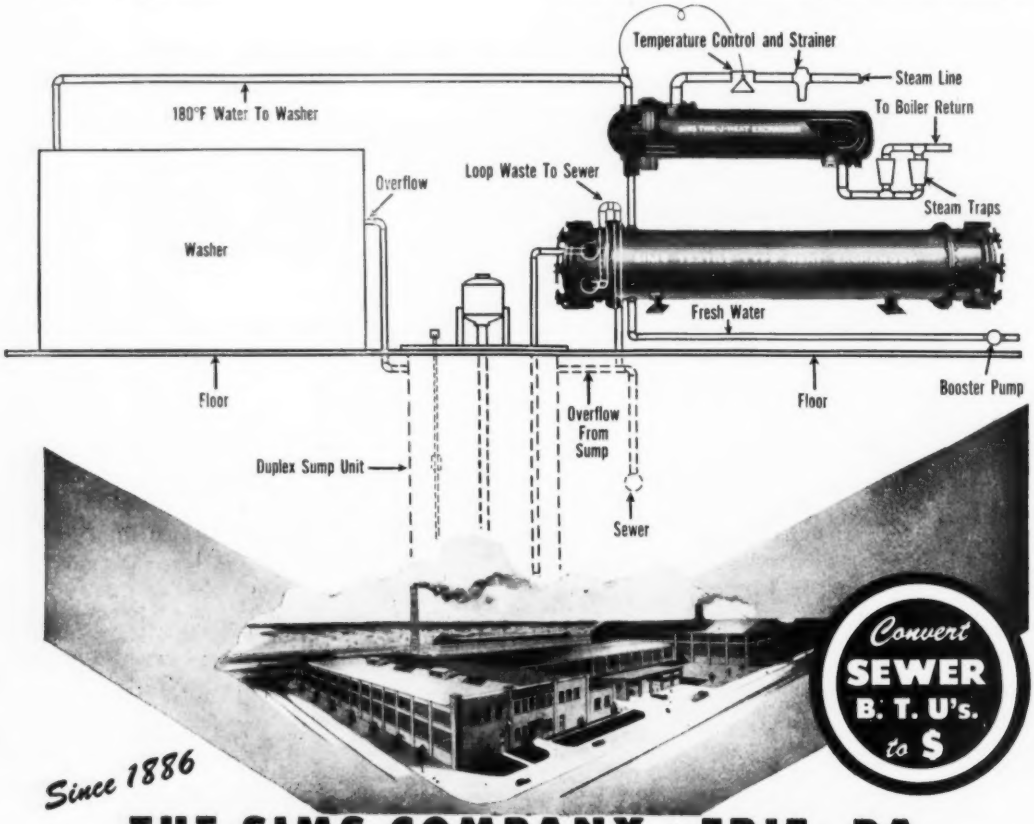


SURFACE DEHUMIDIFIERS

MILLS Show 70 to 90% Annual Return on Cost of SIMS Heat Recovery Systems . . .

Sims of Erie, Pa., heat recovery specialists, for 62 years have discovered a method of reclaiming valuable BTU's from linty contaminated textile open sewers. If your sewer water is over 120° F., you are wasting fuel enough to pay for this Sims System in a matter of months. Several textile plants show a 70 to 90% annual return on the first cost of their Sims Heat Recovery Systems.

One installation as shown below shows how 180° water is supplied to washers with a very minimum of steam required. Our nearest representative will be glad to survey the possibility of profitable heat recovery in your plant and make definite recommendations at no obligation to you. Consult with SIMS OF ERIE engineers today.
THE SIMS CO., BOX 1096W, ERIE, PENNA.



THE SIMS COMPANY • ERIE, PA.

Manufacturers of Exhaust Gas Boilers • Heat Exchangers • Storage Water Heaters • Feed Water Heaters Steam Separators • Commercial Type Instantaneous Water Heaters • Oil Heaters • Quenching Oil Coolers Caustic Soda (Sodium Hydroxide NaOH) Recovery Equipment and Unit Type Coal Pulverizers

"Best Thing Since The Days Of The High Bicycle"

Gramp rode a "bike" with a high wheel in front . . . and got there. Just as you can get there faster and better with a more modern vehicle, you can also cut your costs of slashing and weaving with the Gaulin Homogenizer process of preparing your size.

Cut costs of Slashing and Weaving with

The GAULIN HOMOGENIZER

YOU can cut the cost of slashing and weaving by preparing your size with a Gaulin Homogenizer. This relatively new, but proven system speeds up size preparation, reduces the amount of starch and softener required, lowers heating costs, and increases slasher speeds. Better penetration of the yarn, together with a stronger, more uniform size, materially reduces shedding in the slashers and looms and results in increased loom efficiency. It will pay you to investigate this new method which offers so many savings and advantages.

Less starch and softeners are required with this process. Cooking kettles, the size box and the slasher cylinders are operated at lower temperatures. These savings are possible because the Gaulin Homogenizer breaks down the starch mechanically . . . using a mechanical shearing action rather than cooking . . . converting the starch by shear, velocity and impact.

Now is the time to cut your costs . . . to get these many advantages by adopting this simple new process. Investigate. Our engineers will work with you.

TESTS of GAULIN HOMOGENIZERS *And This New Process* IN COTTON MILLS *Show These* IMPORTANT SAVINGS

1. Reduction in the required amount of starch and softeners.
2. Elimination of cooking time.
3. Lower temperatures required in the size box and the slasher cylinders.
4. A sizable increase in the slasher speeds.
5. Better penetration of the yarn.
6. Sizable increase in moisture content of yarn.
7. Material reduction of shedding in the slashers and looms.
8. Increased loom efficiency.

You Can Save Time, Money and Headaches by processing your size with a

GAULIN HOMOGENIZER

Model TE . . . Designed Especially for Textile Mills

(patent applied for)

Write Today For Full Information

Gaulin TRADE MARK

MANTON GAULIN MFG. CO., INC.
44 Garden Street, Everett 49, Mass.
HOMOGENIZERS • HIGH PRESSURE PUMPS

YOU CAN BE **SURE**.. IF IT'S

Westinghouse

Typical Textile Industry Applications for Westinghouse Packaged Drives

Although packaged, Westinghouse factory-built drives are made by a "building-block" method that permits many optional features. These include: stepless, time-limit acceleration and deceleration, precision speed regulation, IR drop compensation, and extra exciter capacity for multimotor drives.

As a result, Westinghouse Packaged Drives are adaptable to many types of textile machines requiring adjustable speed drives. Here are some of the tried-and-proved applications:

Cloth Printing Machines • Finishing Machines • Full-Fashioned Hosiery Machines Padders • Sanforizers • Slashers • Spoolers • Starch Mangles • Tenters • Variable Speed Spinning Machines • Warpers and Beamers

If you need an adjustable speed drive, Westinghouse Consulting and Application Engineers will gladly investigate your processes and recommend the packaged drive best suited to your requirements.

Courtesy of Sipp-Eastwood Corp.

Westinghouse

EQUIPMENT FOR THE TEXTILE INDUSTRY

YOUR CHOICE

of Packaged Drives with Westinghouse

For many textile machine applications requiring a packaged drive, the improved performance desired can be obtained by using the type having an M-G set. Other machines require the all-electronic type for top performance.

With Westinghouse, you can have your choice:

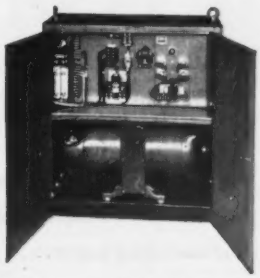
AV Life-Line Packaged Drive. This drive, using an M-G set, gives adjustable speed control up to a range of 16 to 1. It is a simple, factory-wired package housed in one self-ventilated cabinet. It is economical in every way—first cost, installation, power consumption, maintenance and floor space.

Mot-O-Trol. This packaged, all-electronic, adjustable speed drive is designed for use with those machines that require extreme speed ranges up to 100 to 1, or precise speed regulation to as little as plus or minus ½%. Its heavy-duty components and simplified circuits assure trouble-free service under difficult mill conditions.

Both drives give you fast, smooth operation of those machines for which they are made. Each one is backed by Westinghouse unified responsibility for complete drive performance *as a drive.*

Besides drives—packaged and tailor-made—Westinghouse makes a complete line of electrical equipment for the Textile Industry. No matter what your needs, Westinghouse can supply them. Call your nearest Westinghouse District Office, or write to Westinghouse Electric Corporation, P. O. Box 868, Pittsburgh 30, Pa. J-94811

ESSENTIAL ELEMENTS OF WESTINGHOUSE PACKAGED DRIVES

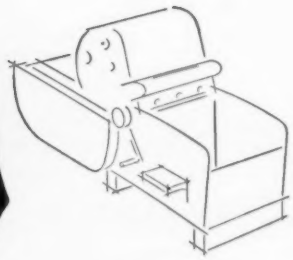


This compact, freely-ventilated cabinet for the AV Life-Line Packaged Drive houses the complete power unit. The motor-generator set for power conversion, dynamically balanced to eliminate vibration, is rubber mounted in lower compartment. Cooling air for the M-G set is drawn through filters which are easily replaced.

Motor and control for either drive. Motor is standard SK Life-Line, d-c motor with bearings which require no lubrication. Operator's station with combined start-stop pushbutton and speed control knob—an exclusive Westinghouse feature—can be installed where most convenient. Reversing and inching are optional.

This is the self-ventilated Mot-O-Trol cabinet, containing all necessary circuits for the complete control of motors. Because of simplified circuit design, Mot-O-Trol has fewer tubes, potentiometers, resistors, capacitors and Rectoxes than any similar equipment. Rugged, industrial components resist vibration and give longer life.

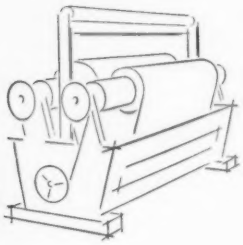
For these fibers... and these operations... use these detergents



SCOURING

Texscour Flakes, a low titer, pure red oil soap with easy solubility and rinsability.

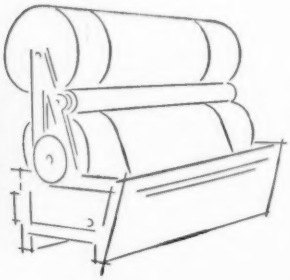
Triumph Synthetic, a low sudsing non-ionic, ready built powder with exceptional detergency.



DYEING

Regal Synthetic, a neutral alkyl aryl sulfonate with excellent wetting and detergent properties.

Energetic Synthetic, an excellent neutral, non-ionic liquid detergent with dye-leveling action.



FINISHING

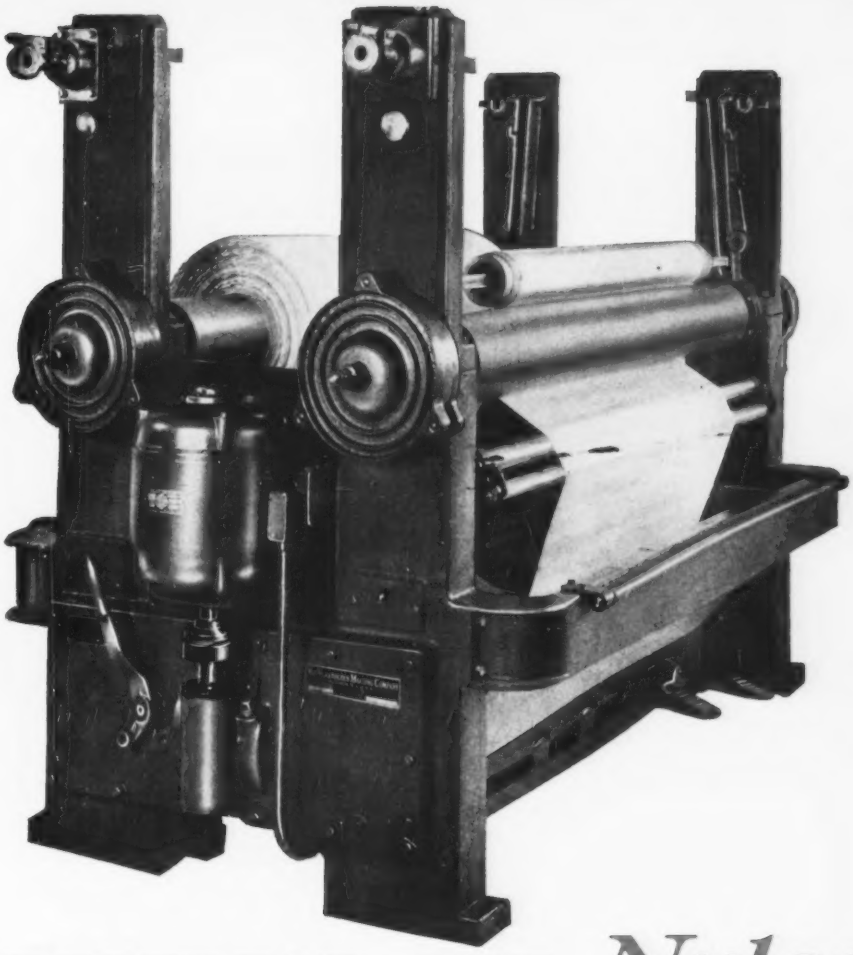
Flint Chips, a neutral high titer pure soap, free from rancidity, with good lubricant qualities.

Certified Flakes, a vegetable fatty acid base soap with rapid penetrating and emulsifying properties.

Write today for Armour's handy reference chart to help you select the right soap or synthetic for each textile processing operation.

ARMOUR *Industrial Soap Division*

Armour and Company • 1355 West 31st Street • Chicago 9, Illinois



PREFERRED FOR *Nylon*

When dyeing Nylon a uniform, minimum tension is so important that this Van Vlaanderen machine is being used more and more. Here's why . . . both let-off and take-up rolls are driven simultaneously* giving a nearly constant cloth speed with a uniform, minimum tension.

Enclosures for this machine and automatic stopping and reversing equipment are available. We will be glad to have your inquiry.

*** On conventional jigs the rolls are driven alternately and the tension increases with the speed as the take-up roll increases in size.**

VAN VLAANDEREN MACHINE COMPANY

370 STRAIGHT STREET, PATERSON 3, NEW JERSEY

Cable address: Vlaanderen, Patersonnj, U.S.A.

World's largest manufacturer of machinery for processing modern fabrics.

There's no better foundation made than TUFFER CYLINDER CLOTH

Tuffer Cylinder Cloth is made of four layers of carefully selected and specially constructed cloths which are produced exclusively for Howard Brothers.

Howard Brothers expert craftsmen—men with KNOW HOW that comes with long, practical experience—laminate these cloths together with a special oilproof glue. As a result, Tuffer Cylinder Cloth is strong and stretch-controlled, yet pliable enough to go on the cylinders easily . . . flexible enough to absorb the constant working by the stock being carded.

Tuffer Cylinder Cloth is factory-tested to withstand 4 *times* the strain it takes on your machines. It has a higher tensile strength (by test) than any similar foundation on the market. This combination supplies the backbone that is so much appreciated in cardrooms everywhere. A careful examination and comparison will convince you of its superiorities.

The U.S. Patent Office has granted patent No. 1,773,783, making us the sole manufacturers of this foundation.

Write to any Howard Bros. plant or office for complete information.

HOWARD BROS. MFG. CO. WORCESTER 8, MASSACHUSETTS

Southern Plants: Atlanta, Ga. and Gastonia, N. C.

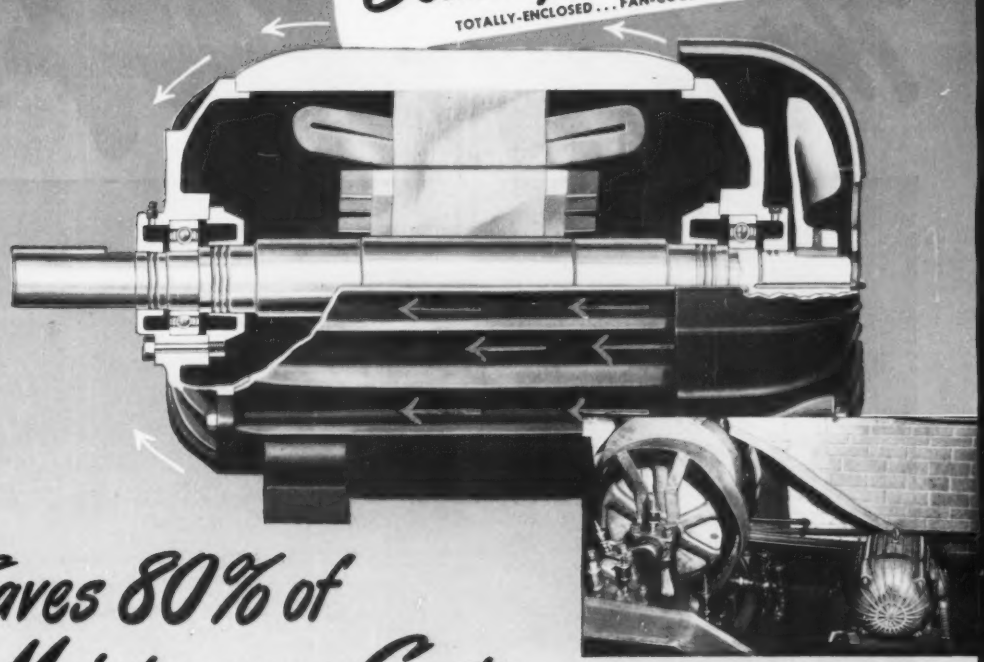
Branches: Philadelphia, Pa. and Blanco, Texas *Direct Representation in Canada* A-7

TUFFER CARD CLOTHING

IMPROVES PRODUCTION ALL ALONG THE LINE

CROCKER-WHEELER *Sealedpower* MOTOR

TOTALLY-ENCLOSED . . . FAN-COOLED



Saves 80% of Maintenance Costs

Sealedpower Motor driving a vertical triplex power pump where moisture is excessive.

You can make maintenance savings of 80% and *more* with Crocker-Wheeler Sealedpower Motors. The secret? C-W dollar-saving design. No other totally-enclosed, fan-cooled motor has *exterior* cooling, with the fan-driven airstream blowing over a finned frame, carrying dust and fumes *outside* and *away*. (The outside fins that identify a Sealedpower Motor provide over 150% more cooling surface.)

But that's not all — this motor keeps cooler longer because it keeps cleaner. There's no place for lint or dirt to *collect* . . . nothing to hold heat *in*. Even on the really dirty jobs, a Sealedpower Motor will keep production going many times longer than "ventilating passage" motors, without a shutdown for cleaning.

For years of cool, clean operation and low maintenance cost, specify Sealedpower Motors. They're stock motors made for the toughest service. In new ratings from 3 to 60 hp.

Crocker-Wheeler Electric Manufacturing Company, Ampere 3, N. J. Division of The Joshua Hendy Corp., Branch Offices: Boston, Buffalo, Chicago, Cincinnati, Cleveland, Los Angeles, Milwaukee, New York, Philadelphia, Pittsburgh, San Francisco, Washington, D. C. Representatives in principal cities.

SEND FOR BOOKLET, "It's Different — it's a Dollar-Saver." Tells why the Sealedpower Motor will save money for you.

WHATEVER YOUR MOTOR REQUIREMENTS — CALL ON CROCKER-WHEELER

If Crocker-Wheeler builds it, it's a better built machine.

Horizontal and Vertical Protected-Type Induction Motors

A-C Generators and High Speed Synchronous Motors

Large D-C Motors and Generators

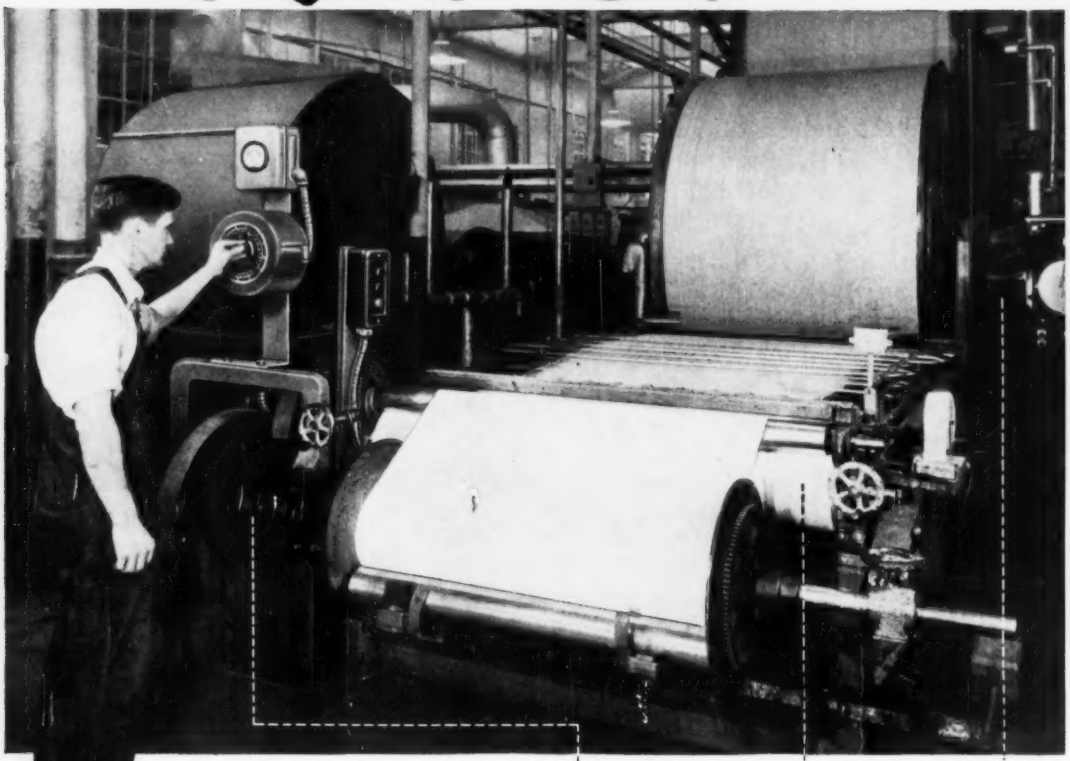
Turbogenerators

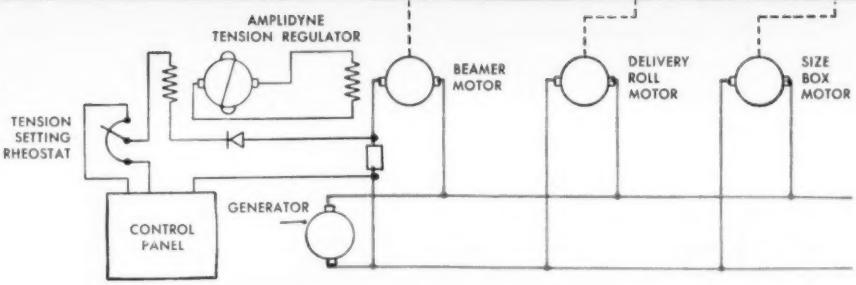
CROCKER WHEELER

ELECTRIC MANUFACTURING COMPANY, AMPERE 3, N. J.

Division of Joshua Hendy Corporation

The PAY OFF is





COMPONENTS OF A TYPICAL G-E SLASHER DRIVE

This simplified schematic shows the basic components of a typical G-E slasher drive with special emphasis on the beam motor and its control. As beam diameter builds up, the drive motor slows down automatically in order to keep yarn speed and yarn tension constant. This is accomplished by holding motor armature current constant during beam build up. Specific details on how this is done are contained in Bulletin GEA-5259. Write for your copy today!

in the weave room!

A GENERAL ELECTRIC MULTI-MOTOR SLASHER DRIVE WITH AMPLIDYNE CONTROL helps reduce broken ends on the loom, speeds up weaving . . . gives you better fabrics!

Many mill operators find that the "human error" factor combined with old-style drives and the limitations of mechanical arrangements is the cause of many difficulties which cut down weave room efficiency. Soft spots show up in the beam, ends break frequently, and yarn tension is irregular.

A General Electric slasher drive reduces these imperfections. Specifically, it gives you these important operating advantages:

1. **Tension is automatically regulated over the entire beam diameter build-up.**

2. **Any one of a wide range of preset tension values between the size box and delivery roll may be easily selected.**

3. **More yards per beam are made possible by uniform tension control.**

4. **Running speeds may be easily preset by adjusting a single rheostat.**

5. **Acceleration and deceleration is smooth and even to prevent tension variations or yarn damage.**

6. **A wide speed range is provided, up to 6 to 1, or higher if necessary.**

7. **A low, preset, creeping speed is available for quick, easy threading.**

8. **The G-E slasher drive may be easily tied in with automatic moisture control.**

9. **Maintenance of slip clutches, line shafts, and mechanical speed changers is eliminated.**

If you are considering a new slasher installation, it will pay you to discuss a G-E drive with your machinery manufacturer. Or, if you're modernizing, get in touch with your local G-E textile mill specialist. For more details, write for Bulletin GEA-5259, *Apparatus Dept., General Electric Company, Schenectady 5, N. Y.*

DRIVE SYSTEMS FOR TEXTILE MILLS

You can put your confidence in—

GENERAL ELECTRIC

654-5

Learn these Definitions

rayon

A textile fiber made of *regenerated cellulose.* (Example: viscose.)

estron

A textile fiber made of an *ester of cellulose.* (Example: cellulose acetate.)

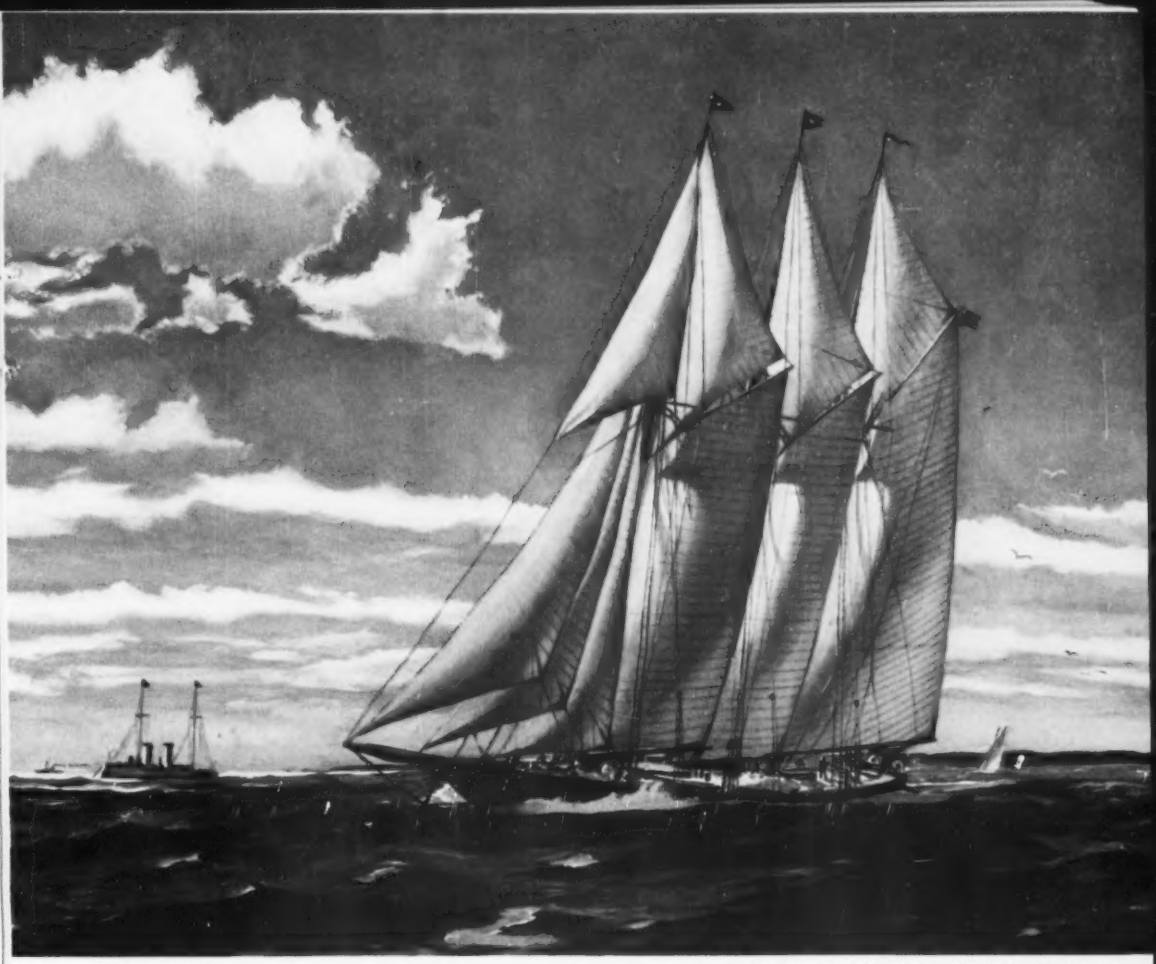
● These separate and distinct names for the two major types of man-made fibers are recommended by the Committee on Textiles of the American Society for Testing Materials, the membership of which includes many leading manufacturers, distributors, and users of textile products.

Tennessee Eastman will follow the ASTM recommendation and identify its cellulose acetate fibers as *estron*, not rayon.

Tennessee
Eastman
Corporation

SUBSIDIARY OF EASTMAN KODAK COMPANY

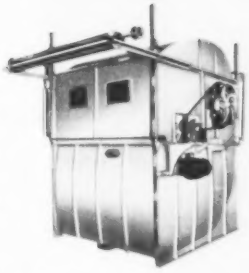
KINGSPORT, TENNESSEE



One of a series painted for Rodney Hunt by Ben Stephenson

FAMOUS FINISHES . . *Still unbroken is the trans-atlantic sailing record set by Wilson Marshall's "Atlantic," a three-masted schooner, in 1905. Competing for Kaiser Wilhelm's cup, the "Atlantic" covered the 3,000 mile course in 12 days, 4 hours, 1 minute — 22 hours ahead of its nearest rival, the German schooner "Hamburg."*

IN worsteds, the "famous finishes" of the Bachmann Uxbridge Worsted Corporation are known to textile men all over the world. In producing them, piece dyes play an important part. Both northern and southern plants of Bachmann Uxbridge use "Tru-Shade" Stainless Steel Dye Kettles. It can hardly be pure coincidence that wherever you find a mill famed for its finishes, you will also find equipment by Rodney Hunt. You are invited to turn the page for more specific information about "Finishing For Profit."



RODNEY HUNT

RODNEY HUNT

Established 1840

ORANGE 10, MASSACHUSETTS, U. S. A.

"Tensitrol," "Tru-Shade," "Slack Loop," "Wring-Master," and "Curve-of-Strength" are registered trade marks identifying textile finishing machinery manufactured exclusively by Rodney Hunt Machine Co.

Finishing For Profit

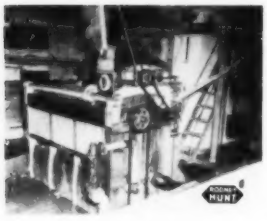
RODNEY HUNT

Established 1840

RODNEY HUNT MACHINE CO.

ORANGE 10, MASSACHUSETTS, U.S.A.

"Tensitrol" Rope Washer — Test Results



THE first "Tensitrol" Rope Washer to be tested in a mill underwent quite complete trials some months ago to determine its efficiency as compared to other washers. Test results speak for themselves. The actual figures are given herewith exactly as tabulated by the mill test engineer. Note the speed at which the tests were run and the small amount of water used.

The following tests were run on the Rodney Hunt "Tensitrol" Rope Washer and results are as indicated:

TEST No. 1 . . . Caustic Treated Dress Goods

Lots 4400, 4401, 4402 consisting of 10,420 yards of dress goods 4.75 yds/lb., were singed, mercerized, but not soured. The residual caustic left in the goods was washed on the trial machine.

Water used — *2,002.5 gals. at a rate of 40 gals/min.*
Steam used — *1,050 lbs. of water evaporated per hour running time.*
Average speed — *208 yds/min.*
Water temperature — *160°F.*

WASH RESULTS — *Expressed in % NaOH on the goods.*

Before Washing		After Washing	
Sample No.	%	Sample No.	%
1	.25	2	.025
3	.125	4	no traces
5	.275	6	no traces
7	.125	8	no traces
Average .194		Average: no traces	

TEST No. 2 . . . Caustic on Poplin

Poplin, Lot 6183, 5,570 yards and Lot 6201, 7,510 yards were mercerized, washed, but not soured.

Water used — *2,722.5 gals. at a rate of 33.4 gals/min.*
Steam used — *1,190 lbs. of water evaporated per hour running time.*
Average speed — *208 yds/min.*
Water temperature — *160°F.*

WASH RESULTS — *Expressed in % NaOH on the goods.*

Before Washing		After Washing	
Sample No.	%	Sample No.	%
1	.925	2	.05
3	1.0	4	.075
5	1.7	6	.1
7	1.125	8	.05
9	1.25	10	.075
Average 1.20		Average .07	

TEST No. 3 . . . Caustic Treated Poplin

Lot 6202—25,060 yards of Poplin, 3.04 yds/lb. was re-mercerized, but not soured.

Water used — *5,475 gals. at a rate of 47 gals/min.*
Steam used — *1,120 lbs. of water evaporated per hour running time.*
Average speed — *215 yds/min.*
Water temperature — *160°F.*

WASH RESULTS — *Expressed in % NaOH on the goods.*

Before Washing		After Washing	
Sample No.	%	Sample No.	%
1	1.275	2	.125
3	1.375	4	.125
5	1.725	6	.225
7	2.15	8	.225
9	1.95	10	.20
11	1.6	12	.125
13	1.55	14	.125
15	1.825	16	.175
17	1.5	18	.13
Average 1.661		Average .165	

TEST No. 4 . . . Caustic Treated Poplin

Lot 6273 — 24,176 yards of Poplin, 3.04 yds/lb. was singed, padded with 4.5% NaOH and washed.

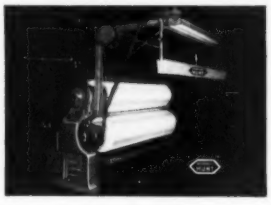
Water used — *5,330 gals. at a rate of 42.4 gals/min.*
Steam used — *1,085 lbs. of water evaporated per hour running time.*
Average speed — *193 yds/min.*
Water temperature — *163°F.*

WASH RESULTS — *Expressed in % NaOH on the goods.*

Before Washing		After Washing	
Sample No.	%	Sample No.	%
1	3.35	2	.10
3	2.75	4	.10
5	2.68	6	.23
7	2.48	8	.10
9	2.95	10	.13
11	2.98	12	.13
13	2.78	14	.13
Average 2.71		Average .13	

★ ★ ★

The Big Squeeze



HERE is the heaviest pneumatic squeezer ever made — A Rodney Hunt "Wring Master" Type RH Unit. 30 thousand pounds of pressure means the ultimate in degree of extraction. An exclusive and valuable feature is the fact that when pressure is released, the rolls automatically separate, thus eliminating the danger of rolls being left in contact which would result in a flat on the roll cover. Further information is available on request.

★ ★ ★

If further information is desired on the above subjects, please address your inquiries to the Rodney Hunt Machine Co., Orange 10, Massachusetts, U.S.A.

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EMBRACING ALL SYSTEMS OF WOOLLEN CARDING

For every class of work, the set of cards recommended can be relied on to give the highest production compatible with quality. For existing carding sets in good condition, rapid modernisation, affecting feeds and condensers, assures an improvement in both production and quality.

Literature dealing with new machines and improvements to existing machinery is available.

★

Enquiries to:
ATKINSON, HASERICK & CO.
211 CONGRESS STREET,
BOSTON 6, MASS.

PLATT BROS
(SALES) LIMITED
OLDHAM * ENGLAND
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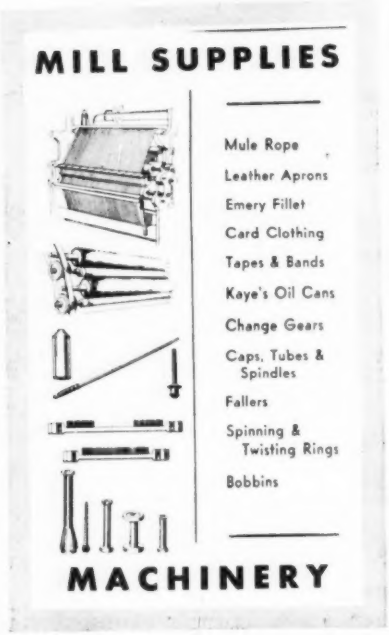

"This little book has saved us time, money and worry"

"It has saved our mill time by locating equipment from wool openers to twister cotts.

"It has directed us to an engineering service whose recommendations have conserved our capital.

"It has showed us how to drop our equipment problems in just one firm's lap and be sure that the right equipment would arrive at the appointed time."

Would you like a guide to these services? Just write the word "Booklet" on your letterhead and mail it to us, today.

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THE CENTRIF-AIR MACHINE CO., INC.

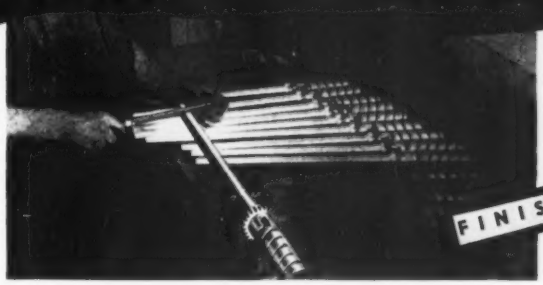
HOLDSWORTH GILL SCREW CO., INC.

WHY HOLDSWORTH GILL SCREWS LAST LONGER

How long your fallers last will depend upon the precision cutting and finishing of the screws. Starting with 1 7/8 inch bars of selected, free cutting, machine steel Holdsworth Screws are roughed out on turret lathes. After inspection for flaws in machining they will go to the fine or coarse threading lathe and then finally finished to size. The skill of these machinists determine the life of the screw.

The precision cutting and finishing of Holdsworth Screws eliminates vibration of fallers especially for intersecting machine use where the slightest variation will throw the pins out of line causing costly damage to the fallers and screws. Holdsworth 5/16, 3/8, 7/16, and 1/2 inch pitch screws are given rigid tests for trueness of pitch before and after finishing operations. When screws are fitted with Holdsworth Cams each is tested to see that the fallers are smoothly transported and maximum service and durability can be expected.

48 HOUR REPAIR SERVICE! *Recutting gill screws*

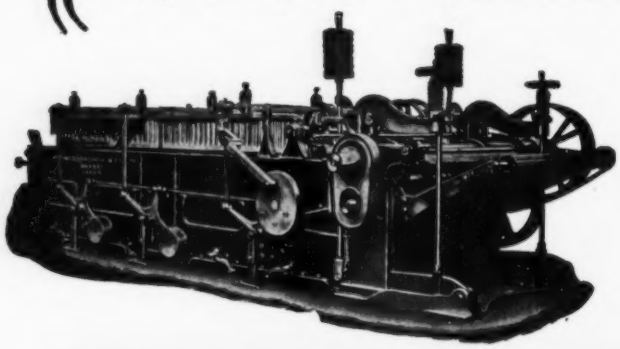


Be sure to specify Holdsworth for screws, fallers, Gill Boxes, or Intersecting Gill Boxes.

EXCLUSIVE SALES AGENT

Atkinson, Haserick & Co.
BUSINESS ESTABLISHED 1823
Textile Machinery Agents and Engineers
211 Congress Street Boston 6, Mass.
BRADFORD, ENGLAND, 8 CURRER STREET

for *Perfect* WOOL WASHING



The LEVIATHAN *Wool Washing* MACHINE

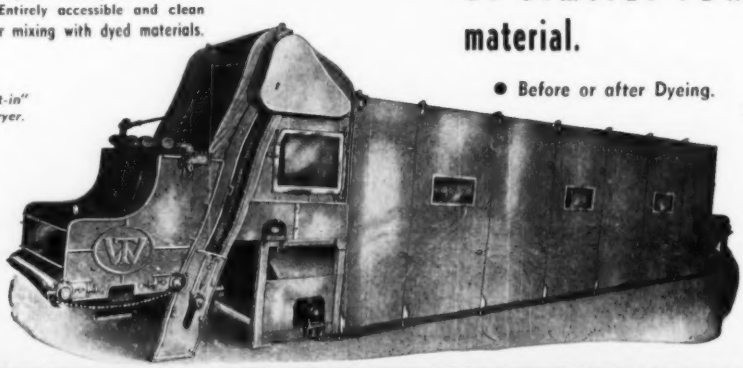
This modern Harrow type machine handles the stock gently and with little agitation through every stage. All the controlling mechanism is below the top of the bowls and all the belts are on one side, permitting rapid inspection of the progress of the wool. Settling tanks extend the full length of the bowls, giving maximum area for dirt settling.

Aireflow DRYING MACHINE *for* Wool, Cotton, Flax, Rags, and any type of similar raw material.

An entirely New Dryer of the single Apron Type with a positive and controlled air circulation. Compact in size, low in steam consumption and upkeep costs. Entirely accessible and clean in operation. No danger of colour mixing with dyed materials.

● Before or after Dyeing.

View at Feed end showing "built-in" auto feed and working side of dryer.



WILLEYS, OPENERS, WOOLWASHERS, DRYERS, Etc.

PRINCE-SMITH & STELLS LIMITED

INCORPORATING TAYLOR WORDSWORTH & CO LTD.

KEIGHLEY — ENGLAND

Agents, U. S. A. and Canada—English system machinery Atkinson, Haserick & Co., 211 Congress St., Boston 6, Mass.

Agents, U. S. A.-French system machinery The Blake Electrical Mfg. Co., 178 Atlantic Ave., Boston 10, Mass.

Hayard P.S.S. 2

They Do It With People
—why not with Paints?

The Past-Performance Test

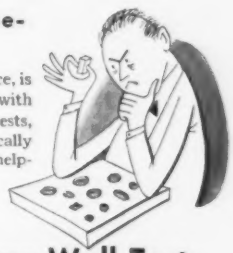
No one ever hires a person without applying the "Past-Performance" test. "What have you done?" . . . "What is your background . . . your education?" . . . "What are your qualifications?" . . . "Where have you worked before?" This, indeed, is good business.

The Say "Ah" Test

Some businessmen have found it wise to use a thorough physical check up to determine the health of prospective workers.

The Square-Peg-in-the-Round-Hole Test

Newer, and of growing significance, is the aptitude test. Not content with past-performance and health tests, businessmen find that scientifically planned aptitude tests are most helpful in finding the *right* man for the *right* job.



The Round-Can-on-the-Square-Wall Test

How many square feet of solid coverage can you get from a round can of paint?

Let's not guess. It is better to test.

Paints, like people, differ greatly. A gallon of one paint will cover more square feet than a gallon of another. Some paints go on faster and easier. Some look better and last longer. So test, brother, test.

Take a gallon of Barreled Sunlight, thin properly, and put it on a wall. See how much it covers . . . how *well* it covers. Check how fast it goes on. Notice how white and clean it looks after drying. *Then*, do the same with a gallon of any other good paint. Compare the results . . . in terms of coverage, appearance and painting time. You'll see how true it is that Barreled Sunlight will give you a better-looking, longer-lasting interior paint job *for less money* than any other paint.

Let's talk it over. Write and our representative will call.

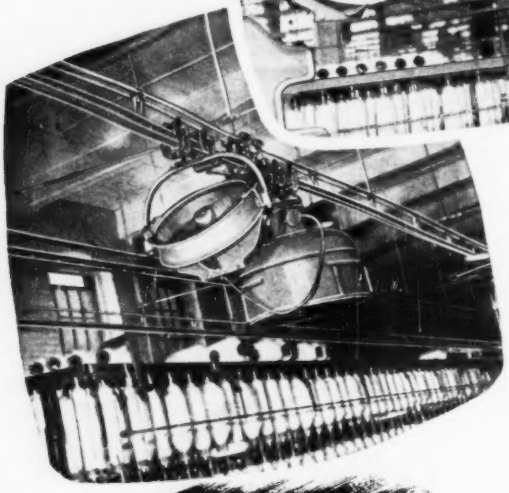
U. S. GUTTA PERCHA PAINT COMPANY
20-H Dudley St., Providence, R. I.

Barreled Sunlight
Paints

In whitest white or clean, clear, pleasing colors, there's a Barreled Sunlight Paint for every job

KEEP CEILINGS CLEAN

while cleaning frames!



A high velocity propeller-type fan unit travels at regular intervals around a loop of MonoRail track and sends a blast of air against the ceiling, preventing any accumulation of lint. The fan is easily adjusted for vertical or horizontal direction enabling air stream to reach every spot in the room.

At the same time, automatic cleaners passing over frames direct a swirling column of air down to prevent lint accumulations on machines.

An American MonoRail engineer will gladly explain the money-saving advantages of American MonoRail Automatic Cleaning. May we hear from you?

ADVANTAGES OF AMERICAN MONORAIL AUTOMATIC CLEANING

1–Removes lint before it accumulates.
2 Eliminates 95% of manual cleaning labor.
3 Machines operate full time.
4 Provides smoother running work.
5 Clean rooms improve employee moral.
6 Reduces accidents.
7 Breaks up dead air pockets.
8 Reduces fire hazards.

THE AMERICAN MONORAIL COMPANY

13108 ATHENS AVENUE CLEVELAND 7, OHIO

For low-cost maintenance of anti-friction bearings on slasher cylinders

Gulf Lubrication Engineers recommend

Gulf Anti-Friction Grease

Gulf Anti-Friction Grease gives outstanding results in this type of service. Specially compounded from a sodium base soap and a high quality lubricating oil, this ideal ball and roller bearing lubricant has the proper consistency, is exceptionally stable, and does not separate at the temperatures encountered in slasher operation.

Gulf Anti-Friction Grease is used by scores of leading textile mills for slasher bearing lubrication. In every case it has delivered fine performance and helped reduce maintenance costs.

Gulf Anti-Friction Grease is also recommended for anti-friction bearings in electric motors and for many other high temperature applications.

To get the benefits of this quality grease for your equipment, and for expert help on other phases of lubrication in your mill, write, wire, or phone your nearest Gulf office today and ask a Gulf Lubrication Engineer to call.

Gulf Oil Corporation · Gulf Refining Company

Division Sales Offices:

Boston · New York · Philadelphia · Pittsburgh · Atlanta
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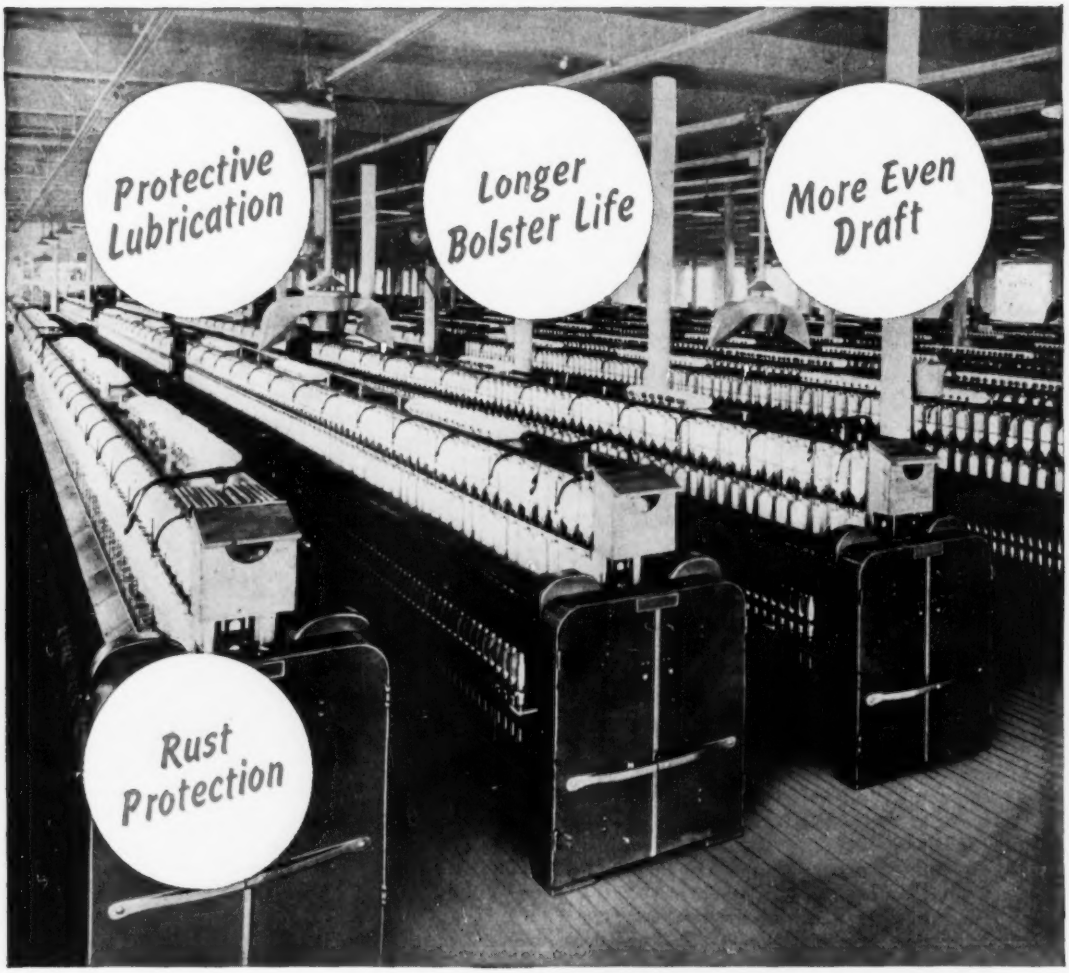
GULF INDUSTRIAL LUBRICATION

SINCLAIR LILY REDUCE



SINCLAIR

YOUR NEAREST SINCLAIR AGENT WILL GLADLY ARRANGE

WHITE OILS POWER COSTS

One of the major concerns in a textile mill is high power costs. Just a little friction drag on each spindle, multiplied in thousands and thousands of spindles, builds up the power load and power cost.

By the use of LILY WHITE Spindle Oils AX, BX and CX these high power costs can be kept down. These oils meet the modern demand imposed by heavier packages and higher speeds. LILY WHITE Oils provide improved lubrication that has resulted in reduction of wear up to two-thirds of previous experience. Less wear reflects less friction. Less friction means reduced power costs. LILY WHITE is a power-saving oil.

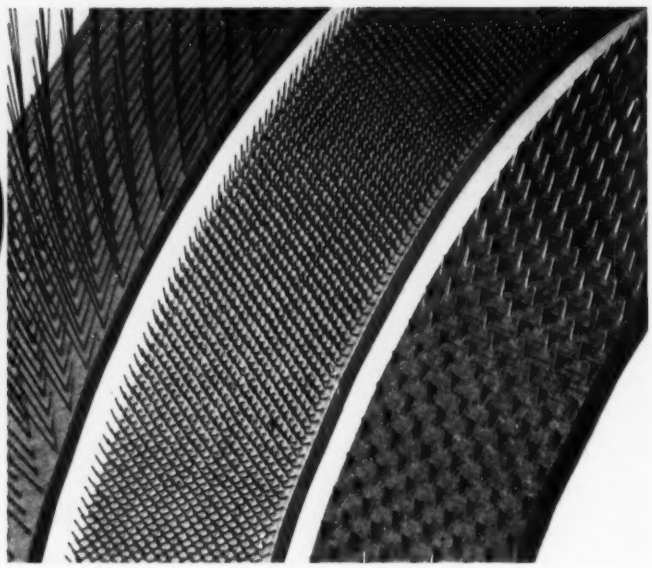
Continual research explains the high quality of LILY WHITE and other Sinclair Oils. Sinclair has recently completed at Harvey, Ill., one of the most modern and complete laboratories for petroleum research and development.

E. W. Isom, Sinclair Vice-President in Charge of Research says: "With the new facilities now made available to us at Harvey, Ill., we expect to find many ways to help industry cut costs through better petroleum products."

TEXTILE LUBRICANTS

FOR LUBRICATION COUNSEL, OR YOU MAY WRITE TO SINCLAIR REFINING COMPANY, 630 FIFTH AVE., NEW YORK 20, N. Y.

3 SIMPLE RULES FOR BETTER CARDING



Rule 1 — Select the correct type of card clothing for the purpose. Don't guess, if you're not sure. Get the advice of Ashworth experienced men.

Rule 2 — Select a card clothing source which can give you the best in quality and a complete range, when you want it and where you want it. Backed by more than 50 years of manufacturing experience, 4 factories, 6 repair shops and 7 distributing points in all important textile areas, Ashworth is the answer.

Rule 3 — Keep your card clothing, card bearings and chains in good condition. *Inspect them periodically*. Use Ashworth Surveys for this purpose. They're free of charge and will enable you to plan repairs so they will involve a minimum loss of production time.

PRODUCTS and SERVICES:

Card clothing for Cotton, Wool, Worsted, Silk Rayon and Asbestos Cards and for all types of Napping Machinery. Brusher Clothing and Card Clothing for Special Purposes. Lickerin Wire and Garnet Wire. Sole Distributors for Platt's Metallic Wire. Lickerins and Top Flats Reclothed.

WRITE US AT FALL RIVER FOR FURTHER INFORMATION.

ASHWORTH BROS., INC.
American Card Clothing Co. (Woolen Div.)

Fall River*†‡ Worcester*‡ Philadelphia*†‡
Atlanta†‡ Greenville†‡* Charlotte†‡
Dallas†‡ (Textile Supply Co.)

*Factory †Repair Shop ‡Distributing Point

Ashworth PIONEERS IN CARD CLOTHING

4 FACTORIES • • • 6 REPAIR SHOPS • • • 7 DISTRIBUTING POINTS

Setting new records for low-cost ventilation *Everywhere!*

JOY AXIVANE* FANS

WITH JOY AXIVANE Fans, you profit by the greater efficiency, quieter and smoother operation, and lower power consumption of their vaneaxial design. You save on installation, too. These light, compact, in-line fans mount directly in the air duct—saving space and time, making foundations, guards, etc. unnecessary. What's more, the *exclusive* adjustable-blade feature of JOY Fans gives you extra flexibility—permits easy adjustment on the job to suit new conditions or compensate for faulty duct work. ● Let us show you how to get *best* ventilating results!

Write for Bulletin, or

Consult a Joy Engineer

* *Reg. U.S. Pat. Off.*

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JOY MANUFACTURING COMPANY

GENERAL OFFICES: HENRY W. OLIVER BUILDING · PITTSBURGH 22, PA.

IN CANADA: JOY MANUFACTURING COMPANY (CANADA) LIMITED, GALT, ONTARIO

NEW SHEAVE *Changes Speed*

OTHER COST-CUTTING ALLIS-CHALMERS PRODUCTS FOR TEXTILE MILLS!

QUICK-CLEAN AND LOOM MOTORS FOR DEPENDABLE POWER

Quick-Clean motors, the original wide-open textile motors, now have ball bearings lubricated and sealed at the factory. They need no attention for years. Proper lubrication is assured and usual bearing maintenance procedures are eliminated. Sizes from 2 to 15 hp. *Loom motors,* immediate delivery, totally-enclosed, non-ventilated type, ¾ and 1 hp.

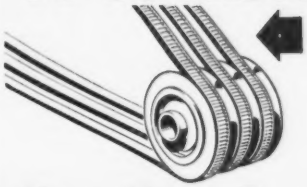
DIELECTRIC HEATERS FOR FAST, LOW-COST DRYING

Outstanding records in many textile mills for faster twist setting, cake drying and other drying operations. This method offers better quality control because of close heat control . . . and greater product uniformity because heat is uniform throughout material regardless of thickness. Results cannot be duplicated by any other process.

Without Stopping

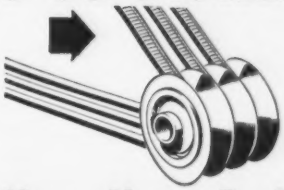
INSTANT SPEED CONTROL AT LOWER COST THAN EVER BEFORE

TO GO FASTER



Move Motor Forward

TO GO SLOWER



Move Motor Back

---- ONE HAND DOES IT...*While Motor is Running*

★Covers most speed changing needs from 3 to 20 hp.

★Extremely simple—one sheave does all.

★Infinite variations to approximately 2:1 speed range.

★No need to stop machine or take load off.

Here is the simplest, lowest cost way ever devised of changing machine speeds without stopping the machine. Simply move the motor forward to increase speed and move it back to decrease speed. The new *Vari-Pitch* Automatic Sheave adjusts groove width and side pressure to the new belt position *automatically*. Proper belt tension is always maintained. All other parts of the drive are standard *Texrope* V-belt drive components.

This new method of speed control means easier, better control of loom, spinning frame, and other machine speeds. Speed can be adjusted instantly for changes in materials, to get every last ounce of production from each machine. You lose no production because the machine continues to operate.

The Vari-Pitch Automatic Sheave saves you money three ways . . . low initial cost . . . higher production from each machine . . . less down time for changes. Get complete details from your A-C Authorized Dealer or Sales Office or write for Bulletin 20B7223.

ALLIS-CHALMERS, 1056A SO. 70 ST.
MILWAUKEE, WIS.

Texrope, Vari-Pitch and Quick-Clean are Allis-Chalmers trademarks.

ALLIS-CHALMERS

A-2731

Originator of the Multiple V-Belt Drive for the Textile Industry

FOR YOUR INFOR M ATION

MEMO

to Resin Finishers:

have you tried Catalyst AC in UREA Resin baths?

Since it was introduced, Monsanto's new Catalyst AC has paid for itself many times over in *melamine* resin baths.

Now, more and more resin finishers are getting the same profitable results with Catalyst AC in *urea* baths. Here's how Catalyst AC delivers profits with *both* resins:

LONGER USEFUL BATH LIFE than any other commercial catalyst is provided by Monsanto's new Catalyst AC. Catalyst AC gives resin baths over twice the useful life possible with earlier catalysts.

REDUCES ODOR PROBLEMS which are commonly encountered with ammoniacal catalysts.

RESIN RETENTION with Catalyst AC is equal to or better than any other commercial catalyst.

CURING RATES are equal to or faster than those obtained with diammonium phosphate.

Other advantages with this new Monsanto Catalyst include good washfastness, softer hand, compatability with softeners and penetrants, and less need for critical temperatures in pad box.

Please write for any specific information you wish on this new Monsanto research development. General technical information is available through the handy coupon.

In step with increased sales...

STED sales up

STED price down

The price of Monsanto's all-purpose detergent is down—cut from 12 to 10½ cents-a-pound as sales increase throughout the textile industry.

An extremely powerful detergent, Sted does a thorough job in the toughest cleaning assignment: raw wool scouring. Sted is also recommended for backwashing, desizing, kier boiling, continuous bleaching, silk degumming, hosiery scouring, and for the soaping of printed and dyed goods.

Sted's washing efficiency is not reduced in hard water; its non-sudsing characteristics prevent redeposits, an asset to easy rinsing. Despite its powerful cleaning action, Sted will not damage the most delicate textile fiber.

Send the handy coupon for full information.

When costs are high...

Now, when operating schedules have been cut, it's more important than ever to get the last dime of profit from current production. Syton and Stymer help mill men do that with higher quality at lower cost.

SYTON for wool spinning

Woolen and worsted spinners clip costs with Syton because this dispersion gives them from 10%-to-30% more yarn strength. Added yarn strength, for example, gives mills fewer ends down during spinning and weaving . . . better roping condensation, reduced fly and card waste. Many mills report they can increase salability by spinning blends hitherto impractical. Almost all mills say they can spin any stock to a finer count with Syton. Better production, at lower cost!

STYMER acetate size

Acetate Mills produce less expensively with Stymer size which forms a tough, smooth, flexible film. In slashing, Stymer doesn't stick to uncovered dry cans, it stops static electricity troubles, and doesn't waste valuable mill time by setting in the pipes or size box. In weaving, Stymer-sized warps show little or no shedding, maintain yarn twist, and have fewer end breaks. Greater efficiency, greater economies!

MONSANTO
CHEMICALS — PLASTICS

SERVING INDUSTRY . . .
WHICH SERVES MANKIND

MONSANTO CHEMICAL COMPANY, Textile Chemicals Department
Desk TWT-20, Everett Station, Boston 49, Mass.

Please send me information on
Syton Stymer Sted Catalyst AC

Name Title

Company

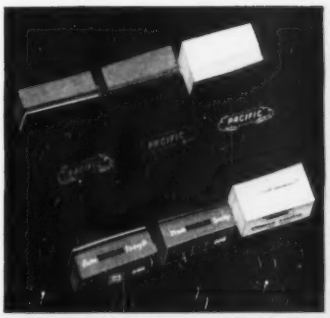
Address

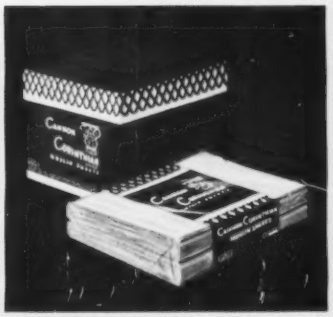
City Zone State

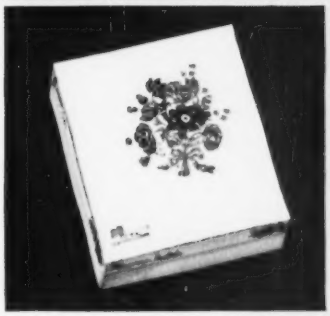
Syton, Sted, Stymer: Reg. U. S. Pat. Off.

Sterling Dyeing and Finishing Company, of Philadelphia has, in a relatively short time, become a prominent processor of fine hosiery. When this company was organized—its President, Julius Frech, a man of long experience in hosiery manufacture, realized the important part the right equipment would play in work he was to turn out. For that reason, he selected carefully. For the all important work of preboarding —Proctor automatic equipment was chosen. Many times since his first installation of Proctor preboarding equipment, Mr. Frech has privately and publicly acclaimed this modern system for its all round efficiency. Today Sterling finished hosiery is preboarded on eight Proctor automatic preboarding machines. Proctor equipment is compact, easy to operate and makes possible a high rate of output which makes it popular with boarders and mill men alike. If you are not acquainted with Proctor preboarding equipment and the late improvements in design which it incorporates—write for details today.

PROCTOR & SCHWARTZ, INC.
710 TABOR ROAD
PHILADELPHIA 20, PA.







MODERN TEXTILE PACKAGING *Scientific construction unites with color control and with precision printing to create quality packages.*

CONTAINER CORPORATION OF AMERICA Textile Packaging Laboratory, Philadelphia

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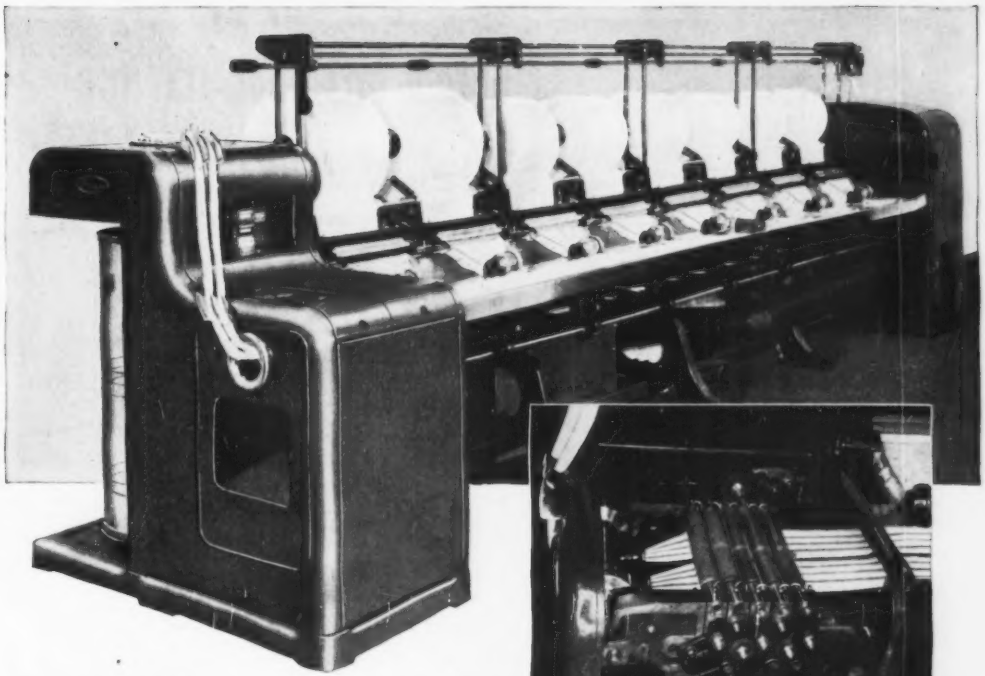


Close-up of Draw Box showing double trumpet arrangement for Bi-coil sliver.

The NEW Whitin Model "J" High Speed Comber

gives you ALL these benefits . . .

The new Whitin Model "J" eight-head, high-speed comber offers new features and special benefits long sought by the textile trade. Increased production speeds, improved quality of combed sliver, easy operation and simple maintenance are benefits that merit your consideration. Precision construction is evidenced by low power consumption and the elimination of noisy vibration.

Among the many innovations and improvements which distinguish the new Model "J" Comber are:

Increased Production — 150 Nips per minute. By the use of a new cam and gearing organization for operating the detaching rolls, an increase of 27% in speed of the combing cycle has been gained. On a long mill test, extending over a period of a year, this comber produced an average of 34 pounds per hour, together with a substantial reduction in neps.

Completely Enclosed Head and Foot Ends. Motor and fan for the aspirator, installed in head end, are free from dust and lint accumulation. Rounded off corners and wide swinging doors permit ease of cleaning, ready accessibility to every assembly, and reduction of accident hazards.

Bi-Coil Coiler. A 14" coiler can carried on a can table that receives a circular but non-rotating motion now takes two slivers instead of the usual one. Slivers are smoothly coiled, free from twist insertion, easily separated when being fed to the drawing frame. Reduces number of cans needed in drawing process by 50%.

Wider Draw Box. Width of draw box increased to 9½" insures better drafting of fibres.

You'll find the new Whitin Model "J" Comber a worthy addition to an already famous line of textile machines — a notable example of quality machinery built for long service and profitable performance.

Write today for our completely illustrated folder describing the new Model "J" Comber.

Whitin MACHINE WORKS

WHITINSVILLE, MASSACHUSETTS

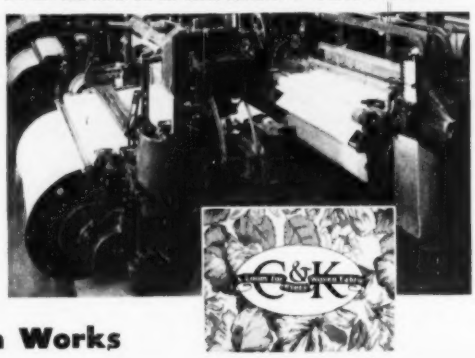
CHARLOTTE, N. C. • ATLANTA, GA.

C&K C-LOOMS *put a heap o'livin' into a home!*

THE UNEQUALLED VERSATILITY of the big C-Loom family has many bright witnesses in every room in every household . . . towels, blankets, bedspreads, curtains, and many other fabrics from the lightest hangings to the heaviest upholsteries.

C-Looms for these fabrics, regardless of fibre content, have the exclusive C & K feature of *3-way convertibility* to a 4 x 2 box automatic bobbin-changing loom for filling mixing (with "tricolor" feature) . . . from either a 4 x 1 automatic bobbin-changing loom or a 4 x 4 box non-automatic for pick-and pick work. And this basic versatility may be even further extended by the addition of a new high-speed C & K Jacquard in 2608-hook and lower capacities. No other looms can weave such a wide range of high-styled fancy fabrics.

C & K C-Looms are available with dobbies, head motions, and cams, as well as jacquards. Other advantages include all-purpose take-up, full automatic let-off, new feeler mechanism which stops a pick-and-pick loom before filling is exhausted, and a wide choice of shuttles accommodating bobbin sizes from $7\frac{3}{8}$" to $10\frac{1}{8}$", with wound diameter up to $1\frac{5}{8}$". Write for the full facts on *all* these features of C&K C-Looms.



This "Invisible Trademark" Stands Back of the Trademarks of the World's Finest Woven Fabrics

Crompton & Knowles Loom Works

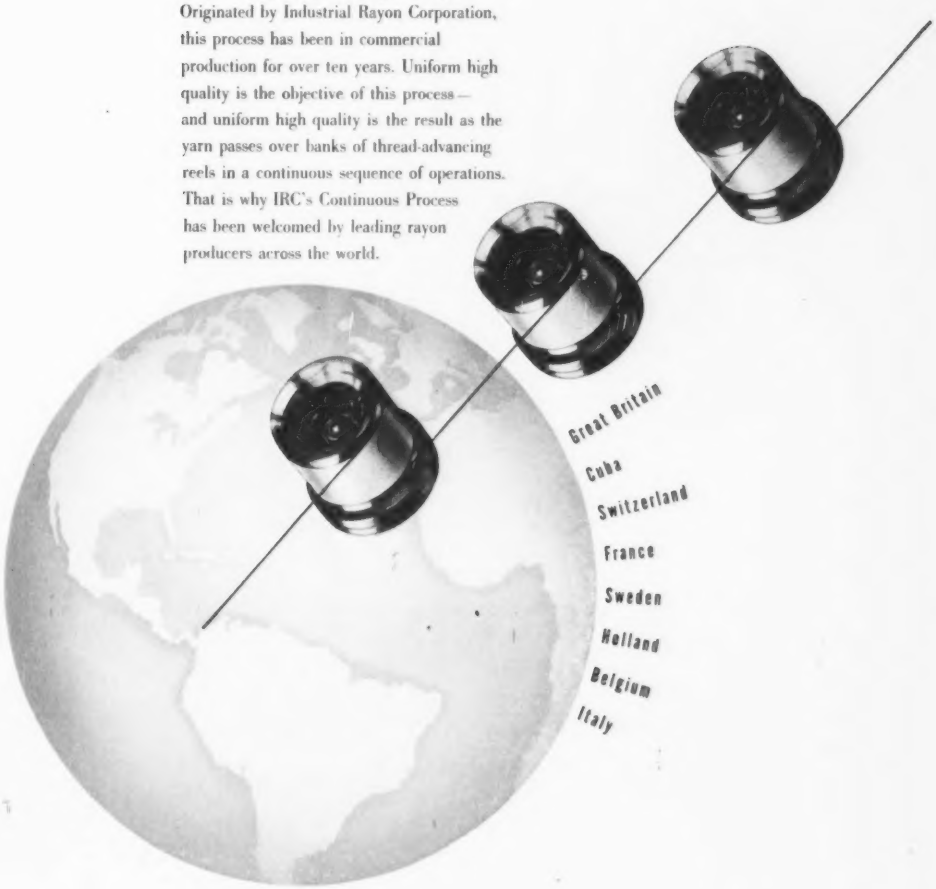
WORCESTER 1, MASSACHUSETTS

PHILADELPHIA, PA. · CHARLOTTE, N. C. · ALLENTOWN, PA. · CROMPTON & KNOWLES JACQUARD & SUPPLY CO., PAWTUCKET, R. I.

in the U.S.A.
and all over the world...

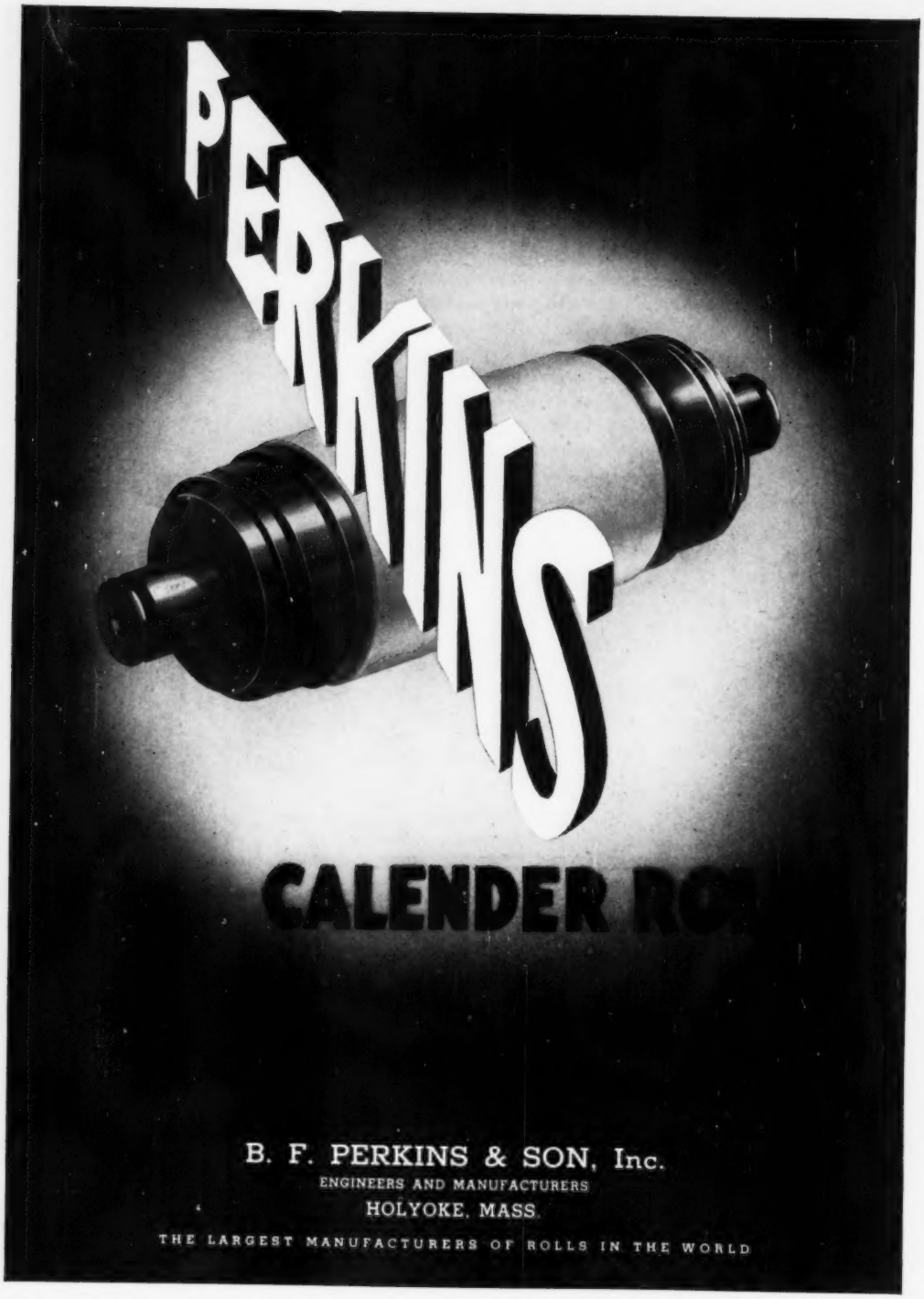
IRC CONTINUOUS PROCESS
means finer quality

Industrial Rayon's Continuous Process is the most outstanding method yet developed for producing and processing rayon yarn. Originated by Industrial Rayon Corporation, this process has been in commercial production for over ten years. Uniform high quality is the objective of this process—and uniform high quality is the result as the yarn passes over banks of thread-advancing reels in a continuous sequence of operations. That is why IRC's Continuous Process has been welcomed by leading rayon producers across the world.



IRC
industrial rayon corporation

Cleveland, Ohio • Sales Office: 500 Fifth Avenue, New York
Makers of ®Spun-lo • ®Tyron rayon yarn, cord and fabric


PERKINS
CALENDER
B. F. PERKINS & SON, Inc.
ENGINEERS AND MANUFACTURERS
HOLYOKE, MASS.
THE LARGEST MANUFACTURERS OF ROLLS IN THE WORLD

Less Slippage, More Poundage, Uniform R.P.M. With This 180° Belt Contact

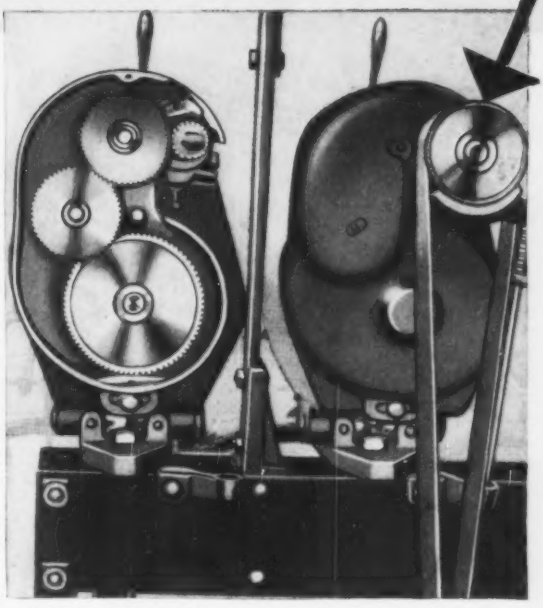


Illustration also shows positive gear driven gainer attachment which controls the ratio between the revolutions of the spindle and the cam.

FACTS ABOUT FOSTER MODEL 75

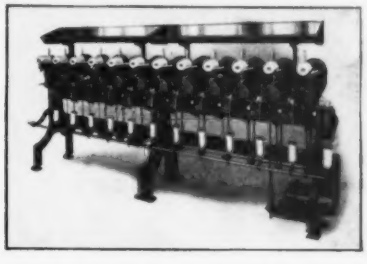
1 HIGHEST PRODUCTION, consistent with good quality. Spindle speeds up to 1500 r.p.m.

2 LOW OPERATING COST. Machine quickly loaded, threaded and doffed. Lifting of convenient handle starts spindle. Durable, positive automatic stop motion.

3 LOW MAINTENANCE & REPAIRS. Floor stands, frames, rails and supply board are made of steel. Spindles are ball bearing mounted. Belts are under tension only when spindles are running. Large diameter, wide angle cam reduces shock and vibration. Tension and pressure adjustments easily made.

4 HIGH QUALITY OUTPUT. Slow starting device prevents stretching and breaking at start. Practically straight thread line (even with oiling attachment) prevents excessive tension build-up. Straight edge cone has slightly convex base to prevent "nipping" when knitting or warping. Foster Zenith Yarn Cleaner provides accurate inspection. Tension automatically compensated for changing yarn speed. Oiling attachment designed to provide uniform application of oil.

Bulletin A-92-A on request



Each spindle on the Foster Model 75 (for winding rayon, nylon, silk and other yarns) is driven by its own belt from a countershaft running the length of the machine. There is a quarter turn in each belt and a full 180° arc of contact is obtained. Result — less slippage which means increased production and uniform r.p.m. of all spindles.

This is only one of many reasons why the Foster Model 75 produces an ideal cone (straight edge or pineapple) at minimum cost for knitting or warping. Other contributing factors are listed herewith.

FOSTER MACHINE CO., WESTFIELD, MASS., U. S. A.

Southern Office: Johnston Bldg., Charlotte, N. C. Canadian Representative: Ross Whitehead and Company Limited, University Tower Bldg., 660 Ste. Catherine St. West, Montreal, Que., European Representative: Muschamp Taylor Limited, Manchester, England.

FOSTER MODEL 75

FOR WINDING RAYON, NYLON AND OTHER YARNS

BRANCHES IN PRINCIPAL CITIES OF U.S.

WEST-O-GRAM

AGENCIES THROUGHOUT THE WORLD

WEST DISINFECTING CO. 42-16 WEST ST. LONG ISLAND CITY 1, NY

TO ALL READERS OF: TEXTILE WORLD

NEW WEST MISTORIZER AUTOMATICALLY SPRAYS INSECTICIDES FASTER FURTHER AND WITH LESS EFFORT

IT IS THE ONLY AUTOMATIC INSECTICIDE SPRAYER IN AMERICA WITH SO MANY NEW EXCLUSIVE FEATURES

FREE DEMONSTRATION UPON REQUEST WRITE OR WIRE AT ONCE

DEPARTMENT OF ENTOMOLOGY
WEST DISINFECTING COMPANY
42-16 WEST ST. LONG ISLAND CITY 1, NY

USE WEST'S VAPOSECTOR FLUID, A HIGHLY CONCENTRATED INSECTICIDE ESPECIALLY FORMULATED FOR MOST ECONOMICAL AND EFFICIENT RESULTS WITH THE NEW MISTORIZER.

Vaposector Fluid is harmless to humans—non-corrosive—non-staining—will not contaminate foodstuffs. Write for further information and free demonstration.

FEATURES

- Toggle switch operates on AC and DC
- Optional time clock at no extra cost (AC only)
- Automatic shut-off
- Operates 1 to 24 minutes (or manually)
- G.E. 1/8 HP Universal motor
- Requires no filters, oiling or greasing
- Patented airflow system cools motor
- Completely leak-proof
- Wide neck for easier filling
- Rotary Compressor creates spray (this is not a fan-type unit)
- Graphitar lubrication allows unit to run wet or dry
- Clog proof spray nozzle 180° adjustable
- Container withstands chemical action of insecticides
- Precision built to save time and labor and for trouble-free years of service
- Aluminum alloy casting rust resistant
- Low center of gravity for easier handling and aids in preventing unit from tipping over
- Specially built-in fuse assembly protects against burn-outs
- Utilizes every drop of insecticide
- Instantaneous and continuous full pressure spraying
- Density of spray easily regulated by air volume control dial
- Ball bearings hermetically sealed
- No condensation of steam or water to dilute insecticide

Call us!

SYMBOL OF SERVICE
FOR STEEL USERS

UNITED STATES STEEL SUPPLY COMPANY
USS
STEELS
SERVICE

YOU can avoid unbalanced inventories as well as losses due to price declines and obsolescence by ordering your steel from us, as you need it. You can save on space and handling costs, too.

Warehousing complete stocks of steel products is our business and today we can supply promptly, from our large stocks, items needed to balance your inventories. Our modern warehouses, located strategically for prompt deliveries coast-to-coast, are equipped with the most up-to-date machinery for the speediest cutting, processing and handling of steels.

So — "Call Us" — when you need steel, metal-working machinery, tools, supplies and aluminum. Your orders, large or small, will receive prompt, courteous attention.

UNITED STATES STEEL SUPPLY COMPANY

USS

Warehouses: BALTIMORE · BOSTON · CHICAGO
CLEVELAND · LOS ANGELES · MILWAUKEE · MOLINE, ILL. · NEWARK · PITTSBURGH
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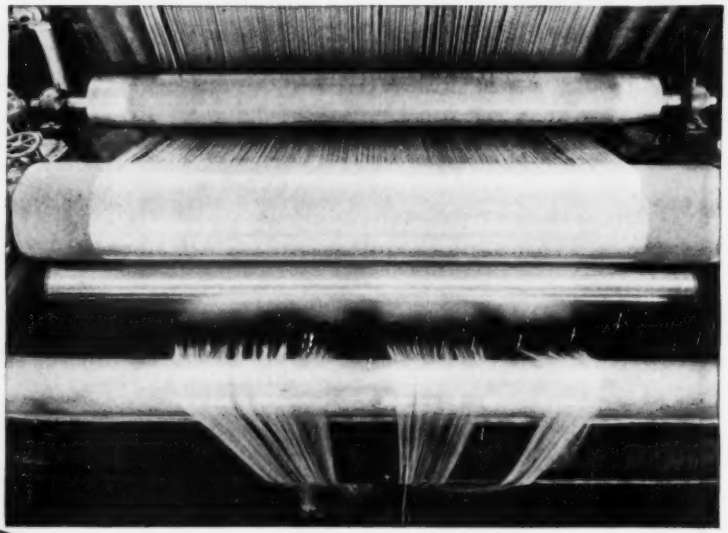
Also Sales Offices at: KANSAS CITY, MO. · PHILADELPHIA · TOLEDO · TULSA · YOUNGSTOWN
Headquarters Offices: 208 S. La Salle St.—Chicago 4, Ill.

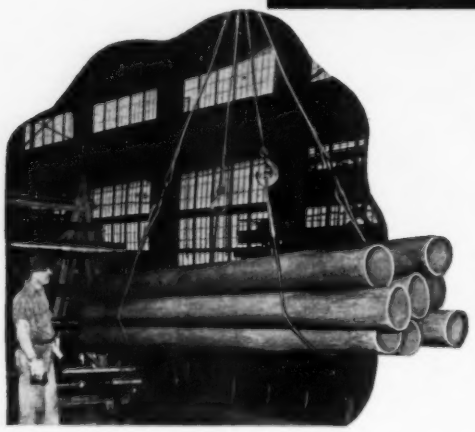
UNITED STATES STEEL

The easy way!

Make Slasher rolls from Seamless MONEL tubing



Monel covering eliminated the need for frequent refinishing of these rayon slasher rolls. Rolls such as these can now be made from Monel extruded tubing subsequently machined to finished size.



Lifting a load of extruded tube shell at Inco's Huntington, W. Va. mill. Monel, Inconel, and Nickel seamless extruded tubing is now available in outside diameters up to 9¼".

Seamless extruded Monel tubing is now available in outside diameters up to 9¼", with wall thicknesses from ¼" to ⅝".

This means that you can make rustproof, corrosion-resistant slasher and other textile rolls easily and economically by machining the seamless tubing down to size. Monel* is readily machinable; will take and *keep* a smooth polish.

Monel is highly resistant to the destructive action of many dyehouse chemicals including all sizing compounds.

Cleaning is easy, too. Flushing with fresh water is usually all that is needed to keep Monel surfaces clean.

Whenever you need rolls . . . new or replacement . . . check with Inco. You may find that the newly available seamless extruded tubing will enable you to get *better* rolls at an economical cost.

For further information and quotations, write directly to Inco.

EMBLEM OF SERVICE

NICKEL (INCO) ALLOYS

Monel* • "K"* Monel • "R"* Monel • "KR"* Monel • Nickel "D"* Nickel • "L"* Nickel Inconel* • Duranickel* Permanickel* • Inconel "X"*

THE INTERNATIONAL NICKEL COMPANY, INC.

67 Wall Street, New York 5, N. Y.

*Reg. U. S. Pat. Off.

A "petty detail" of vital importance

The *bend of the crimp* on the beard of a Spring Beard Needle may appear to be a "petty detail" but it is a vitally important factor in needle performance. For only when the bend is exactly right in position, shape and temper will there be no undue strain on the beard from the pressure bar.

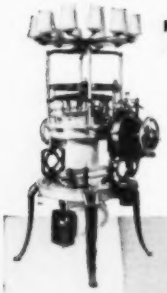
Torrington employs precise methods of control to make sure *every detail* of Torrington Needles is uniformly right. That is why so many leading mills insist on Torringtons.

THE TORRINGTON COMPANY, Torrington, Conn., U. S. A.
Established 1866

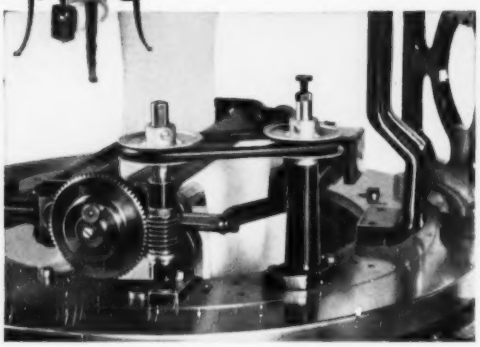
Branches: New York • Philadelphia • Chicago • Greensboro, N. C. Boston • St. Louis • Toronto, Canada • *Pacific Coast Representative:* E. G. Paules, 1762 West Vernon Ave., Los Angeles 37, California. Broadgate House, 7-10 Eldon Street, London E. C. 2, England.

TORRINGTON

SPRING BEARD NEEDLES • SINKERS • DIVIDERS • SPLIT DIVIDERS

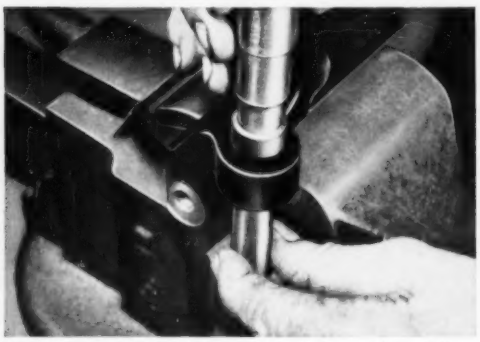


Torrington Needle Bearings Aid Smooth Fabric Takeup in Wildman Circular Knitting Machines



This is the fabric takeup mechanism used on circular knitting machines made by Wildman Manufacturing Company. Designed to maintain a delicate uniform tension on the fabric, it is equipped with Torrington Needle Bearings for smooth operation.

The small size of Needle Bearings makes them ideal for this application. Fitting into a small housing on the worm gear bracket, they permit the use of a large shaft for strength and rigidity. A low starting torque assures quick, easy response to the pulley drive.



Needle Bearings are easily installed with the simple tool illustrated. Accurate alignment of the bearings is assured by the guide. Since the bearings take a firm press fit, there are no spacers or retainers required to complicate the economical design.

The assembly is completed by slipping a hardened and ground shaft through the bearings, to serve as the inner race. The design's simplicity is matched by its reliability: Needle Bearings have been used here for over thirteen years without a replacement.

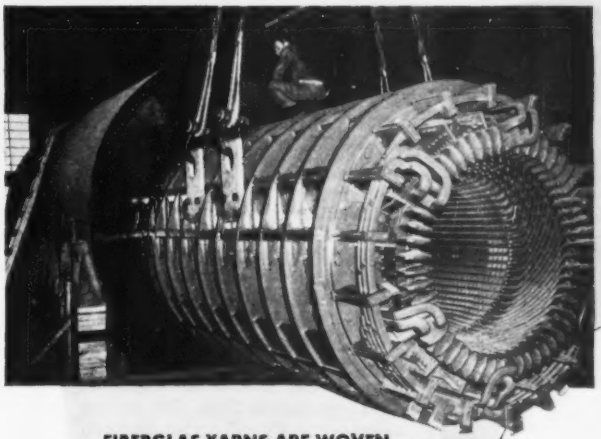
You can secure the benefits of anti-friction operation economically by using compact, high-capacity, efficiently lubricated Torrington Needle Bearings. Our engineers will be glad to assist you in adapting them to your equipment. Write us today. THE TORRINGTON COMPANY, Torrington, Conn., or South Bend 21, Ind. District offices and distributors in principal cities of United States and Canada.

TORRINGTON *NEEDLE* **BEARINGS**

Needle • Spherical Roller • Tapered Roller Straight Roller • Ball • Needle Rollers

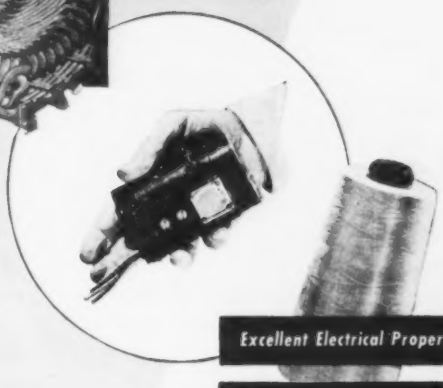
Textiles Improved with FIBERGLAS* YARNS

HERE IS ONE EXAMPLE OF HOW ALERT WEAVERS ARE PROFITING BY THE VERSATILE CHARACTERISTICS IN THESE YARNS.



FIBERGLAS YARNS ARE WOVEN...

into thousands of yards of textiles used for electrical insulation. More than 50 applications of Fiberglas are used by the industry today. Of these, a major portion are woven cloth, tape, braided sleeving and tubing. The electrical industry, recognizing the advantages of glass for insulation, has constantly increased its demand for textiles woven of Fiberglas yarns.



- *Excellent Electrical Properties*
- *Noncombustibility*
- *Resistance To Oils & Acids*
- *Resistance To Mildew & Rot*
- *High Tensile Strength*
- *Dimensional Stability*

FIBERGLAS YARNS CAN BUILD MARKETS FOR YOU!

Fabric development men, converters and mills have solved many problems, achieved many successes by using Fiberglas yarns.

Here are a few examples of fertile fields that are producing textile profits—waterproof membrane fabrics, fabrics for laminates and moldings, industrial tapes, gaskets, conveyor belts, filter cloths, steam hose, convertible auto tops, fender welding, awnings, curtains, and upholstery.

To solve your problems on new constructions or improved products, write or phone today for Fiberglas technical representative. Our research experts are at your service—either in your mills or in our textile laboratory. Owens-Corning Fiberglas Corporation, Textile Products Division, 16 East 56th Street, New York 22, N. Y.

Owens-Corning Fiberglas Corporation makes only the Fiberglas Yarns—not the finished products.

OWENS-CORNING FIBERGLAS *Yarns*

*FIBERGLAS IS THE TRADEMARK (REG. U. S. PAT. OFF.) OF OWENS-CORNING FIBERGLAS CORP. FOR A VARIETY OF PRODUCTS MADE OF OR WITH GLASS FIBERS.

AT LAST! 6-Point Recording on a Single Round Chart

THE NEW MULTI-RECORD DYNALOG*

Employing only one measuring system, the new Foxboro Multi-Record Dynalog gives up to 6 clean-cut records in as many different colors on one convenient *round* chart. The ingenious, foolproof switching arrangement provides recordings in sequence every 6 seconds—so close that the record of each measurement appears as a continuous line. The record colors positively will not run together.

Like all Dynalog Electronic Instruments, balancing from any measurement point is entirely *stepless* and continuous. Its combination of accuracy, speed and sensitivity is unequalled.

The Multi-Record Dynalog is available for measuring several temperatures or other process variables. Send for Bulletin 428. The Foxboro Company, 84 Neponset Avenue, Foxboro, Mass., U. S. A.

TYPICAL APPLICATIONS IN TEXTILE PLANTS

Air Conditioning Systems — **Slashers**
Multi-Zone Dryers — **Dye Kettles**
Roll or Cylinder Surface Temperatures

. . . or, wherever there is a number of temperatures, pressures, humidities or other process variables to be measured and recorded.

Learn how this unique instrument improves and simplifies operation . . . reduces overall costs and instrument costs.

* Reg. U. S. Pat. Off.

Another FOXBORO *FIRST*
Reg. U. S. Pat. Off.

announcing...

Johnson Joints with new . . . Super SEAL RINGS

These are approximate average increases in physical strength of the new Johnson carbon-graphite seal rings:

Transverse Breaking Strength	Increased	40%
Tensile Strength	Increased	100%
Compression Strength	Increased	65%

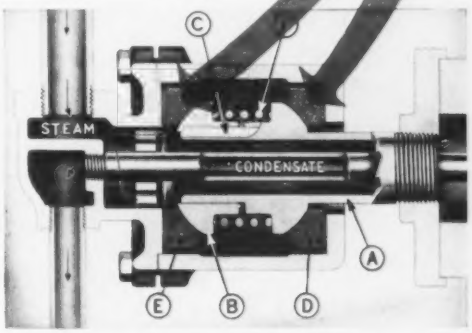
The carbon-graphite seal rings used in Johnson Rotary Pressure Joints are a big factor in their outstanding performance. Johnson has always played a part in making these rings stronger, longer-lasting.

Now a new method of compounding and processing has been developed which brings a tremendous improvement in the physical properties. The figures above tell the story of this new Super seal ring; these are average increases, and will vary somewhat with the different sizes.

The new Super seal rings are now furnished in the great majority of Johnson Joints, very shortly will be furnished in all sizes. They mean an even greater abundance of the trouble-free, long-life service which has made Johnson Joints first choice of mill operators and machinery manufacturers alike.

[redacted]—get these new Johnson Super seal rings. Manufactured precisely to original specifications and tougher, longer-lasting by far.

Here's the new Johnson Super seal ring—the result of a new development in compounding and processing carbon-graphite that brings a tremendous advance in physical strength.



Puts Johnson Joints Farther Ahead than Ever!

Arrows show new Super seal ring (D) and bearing ring (E) which eliminate oiling and packing and now add longer life and greater resistance to all operating hazards. Nipple (A) is connected to roll or drum. Collar (B) is keyed to nipple at (C) but fits loosely so pressure fills housing and serves as sealing force, making Joint self-adjusting. Spring (F) is for initial seating only. Type B Johnson Joint illustrated; other types, sizes for all needs. Write for literature.

Product of The Johnson Corporation

The Johnson Corporation, 814 Wood St., Three Rivers, Mich.

ROTARY PRESSURE JOINTS • COMPRESSED AIR SEPARATORS AND AFTERCOOLERS
DIRECT OPERATED SOLENOID VALVES • "INSTANT" STEAM WATER HEATERS

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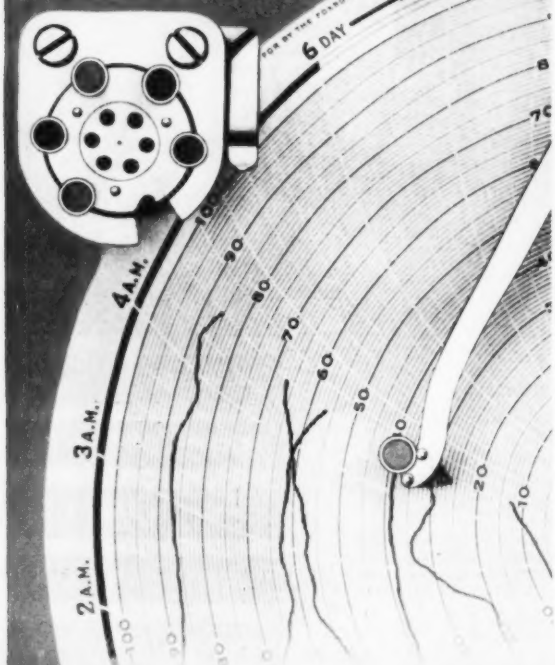

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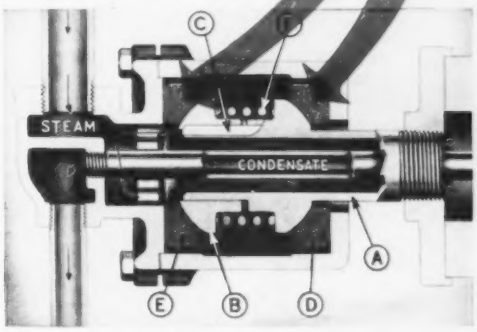

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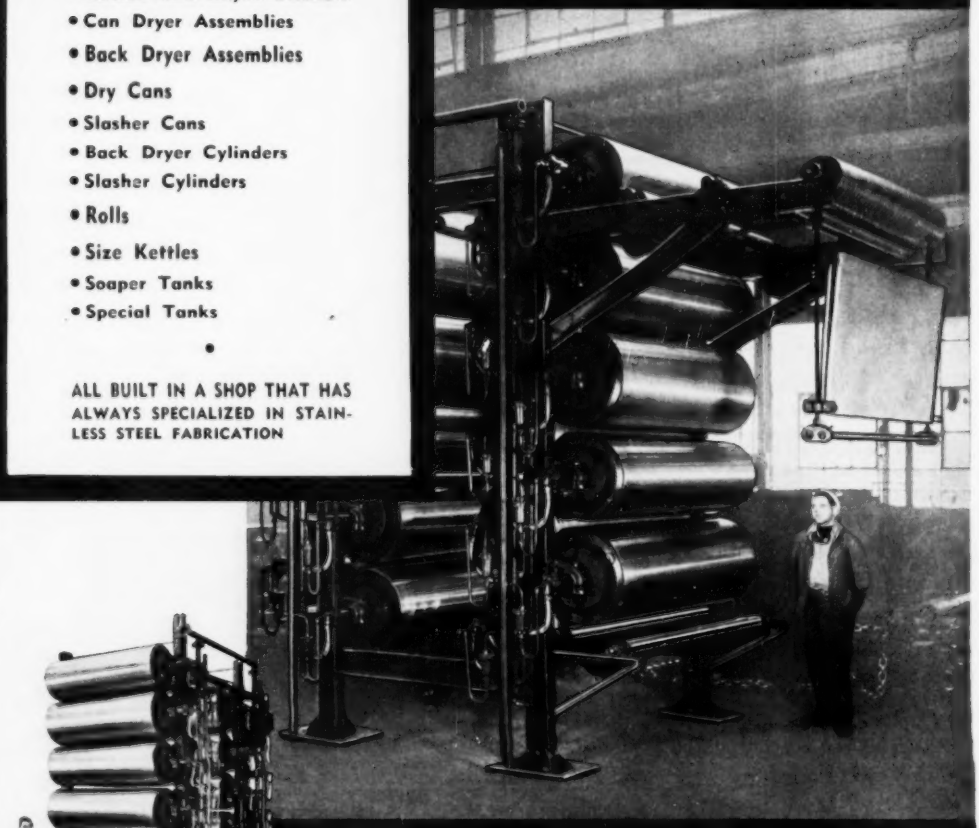
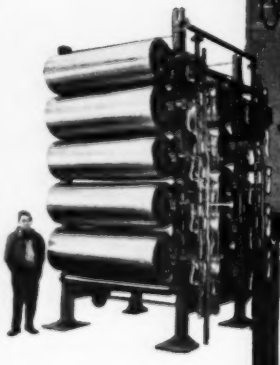
- Slasher Cylinders
- Rolls
- Size Kettles
- Soaper Tanks
- Special Tanks

ALL BUILT IN A SHOP THAT HAS ALWAYS SPECIALIZED IN STAINLESS STEEL FABRICATION





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Successor to Textile Machinery Division of
UNITED STEEL OF AMERICA, INC.

P. O. BOX 470 PORT CHESTER, N. Y.

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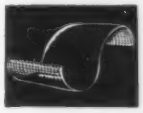
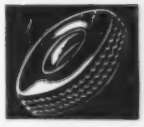
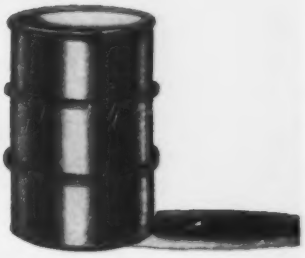
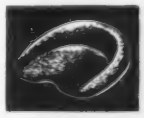
Whatever your requirements, you may save important time and money with a Flintkote product . . . either standard, or one we've made up just for you.

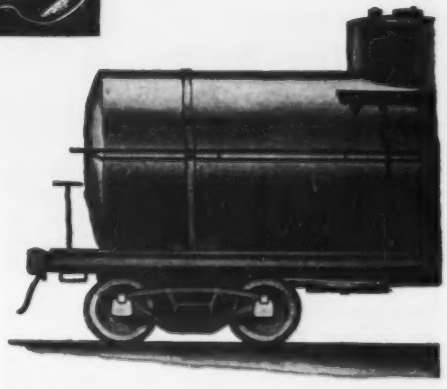
Our research, development and manufacturing facilities are at your service.











THE FLINTKOTE COMPANY

Industrial Products Division

30 Rockefeller Plaza, New York 20, N. Y.

ATLANTA • BOSTON • CHICAGO HEIGHTS • DETROIT • LOS ANGELES
NEW ORLEANS • WASHINGTON • TORONTO • MONTREAL

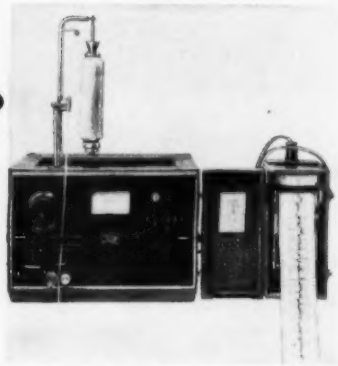
FLINTKOTE

Products for Industry

Cost Conscious?

Get the Facts on USTER

"Uster" Evenness Tester



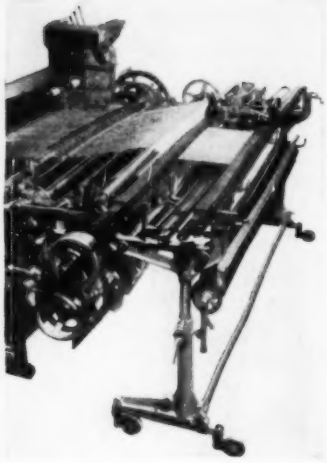
Unprecedented quality control is made simple and practical with this tester. Turn the spotlight on your machinery and methods with this invaluable instrument. Every yarn mill needs one to compete. Booklet No. 102 for details.

Moos Slub Catcher

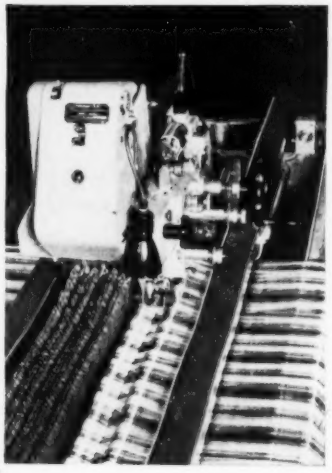
Incomparably effective. Will not chafe or skin the yarn. Booklet No. 77 for details.

"Uster" Dropper

Automatically pins open drop wires at a rate of up to 18,000 per hour. Permits economical use of open drops. Saves hours of labor and loom down-time. Booklet No. 47 for details.



The "Uster" Warp Preparation and Quality Control Equipment shown here offers unprecedented possibilities for lowering labor costs, reducing down-time, and for controlling and improving quality. It is Zellweger built to the highest attainable standards of precision. Write for the fully descriptive booklets listed or for technical consultation.

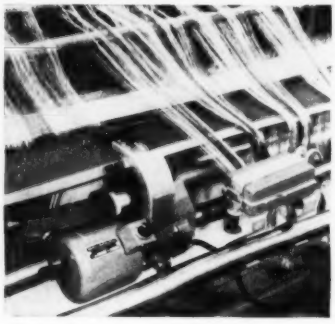


USTER CORP.

Wilkinson Blvd., Charlotte 6, N.C.
80 Boylston St., Boston 16, Mass.

"Little Uster" Warp Tying Machine

The fastest and most efficient warp tying machine built. Entire warp tied in one single "bite". Ties up to 120,000 ends in 8 hours. Head and frames are independent units so that new warp can be prepared on one loom while the head is tying on another. Request Booklet No. 72 for details.



"Zellweger" Reeding Machine

Tremendously speeds up the reed drawing process and minimizes reed spreading damage. Request Booklet No. 92 for details.

Turicum Reaching-In Machine

Speed increases of over 100% in the drawing-in operation have been attained. Quickly pays for itself by saving labor and increasing output. Request Booklet No. 7 for details.

THE BEST LIFT TRUCK FOR INSIDE WORK

Inside your plant with a HYSTER® LIFT TRUCK

The complete Hyster line of trucks—7 models (2,000 lb. to 30,000 lb. capacity) are gasoline powered; all are equipped with pneumatic tires. Illustrated at top of page is Hyster 20; above, Hyster 40.

Saves Floors...Cuts Maintenance Costs. More Speed, More Traction, More Maneuverability.

The Hyster Pneumatic Tire "Easy Ride" is easy on floors—easy on the load—engineered for greater maneuverability in narrow aisles and crowded warehouse spaces. HYSTER IS THE IDEAL LIFT TRUCK FOR INSIDE WORK.

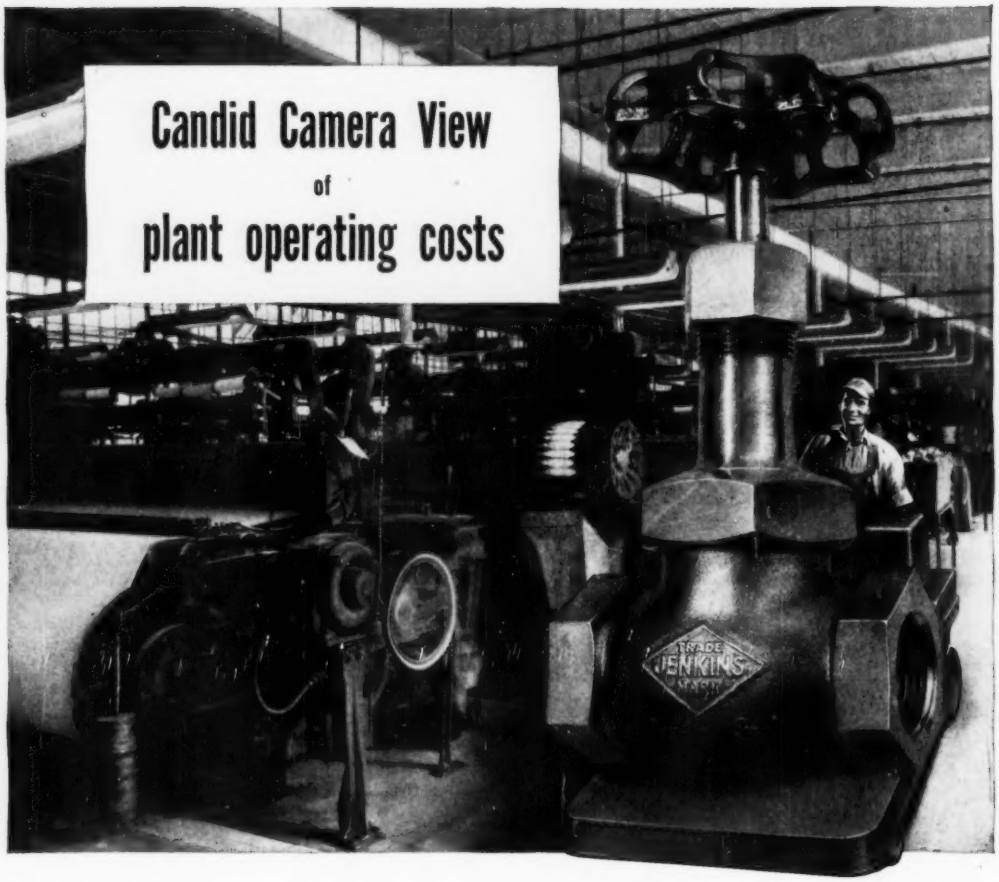
Big PNEUMATIC TIRES CUT DOWN FLOOR SURFACE REPAIRS, practically eliminate damage to costly floors. TRACTION and RAMP CLIMBING ability is increased. Operator fatigue is reduced.

Your Hyster Distributor will demonstrate a Hyster 20 (2,000 lb. capacity) or a Hyster 40 (4,000 lb. capacity) for your *inside and outside* materials handling jobs. You can check your own savings. SEE FOR YOURSELF or write for literature.

HYSTER COMPANY

THREE FACTORIES

2922 N. E. CLACKAMAS STREET . . . PORTLAND 8, OREGON
1822 NORTH ADAMS STREET . . . . . PEORIA 1, ILLINOIS
1022 MEYERS STREET . . . . . DANVILLE, ILLINOIS



FOCUSED on operating costs of a textile plant, a truly candid camera would record this view of valves in proper relation, cost-wise, to other equipment. By the simple photo-magic of showing *all* valves in the plant as *one* valve, the picture points up an important fact—that valves, collectively, are a major investment in *any* plant, *any* large building where operation involves fluid control.

IT PAYS MANAGEMENT to keep this fact in mind. With wages and material costs the highest ever, valve maintenance costs must be watched as carefully as operating expense of larger plant units.

EXCESSIVE MAINTENANCE of one inferior valve is insignificant, but multiplied by thousands, it is a serious drain on operating budgets.

JENKINS BROS. helps you meet this problem two ways. First, by building extra endurance into Jenkins Valves, making them the longest-lasting, lowest-upkeep valves that money can buy. Second, with advice from Jenkins Engineers on any question of proper selection, installation, or maintenance.

For all new installations, for all replacements, rely on Jenkins quality and engineering for lowest valve costs in the long run. Sold through leading Industrial Distributors.

Jenkins Bros., 80 White St., New York 13; Bridgeport, Conn.; Atlanta; Boston; Philadelphia; Chicago; San Francisco. Jenkins Bros., Ltd., Montreal.

"PREVENT VALVE FAILURE" is a 28-page guide to valve economy, fully illustrated, with case histories of valve damage, and recommendations for its prevention by proper selection, installation, inspection, and maintenance. FREE on request. Write JENKINS BROS., 80 White St., New York 13, N. Y.

LOOK FOR THIS JENKINS DIAMOND MARK

SINCE Jenkins Bros 1864

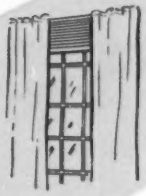
JENKINS VALVES

Types, Sizes, Pressures, Metals for Every Need

Sheds showers like a duck's back

Keeps fabrics fresh and new looking

Adds resistance to soil and stain



Improves the "hand" and drape of materials

Trade Mark Reg.

MIGASOL PJ

Prolongs the life of fabrics

Ciba Presents...

MIGASOL PJ

STABLE • SAFE • CLEAN • EASY TO USE

An effective water repellent for all textile fabrics.

DYESTUFFS · CHEMICALS · INTERMEDIATES

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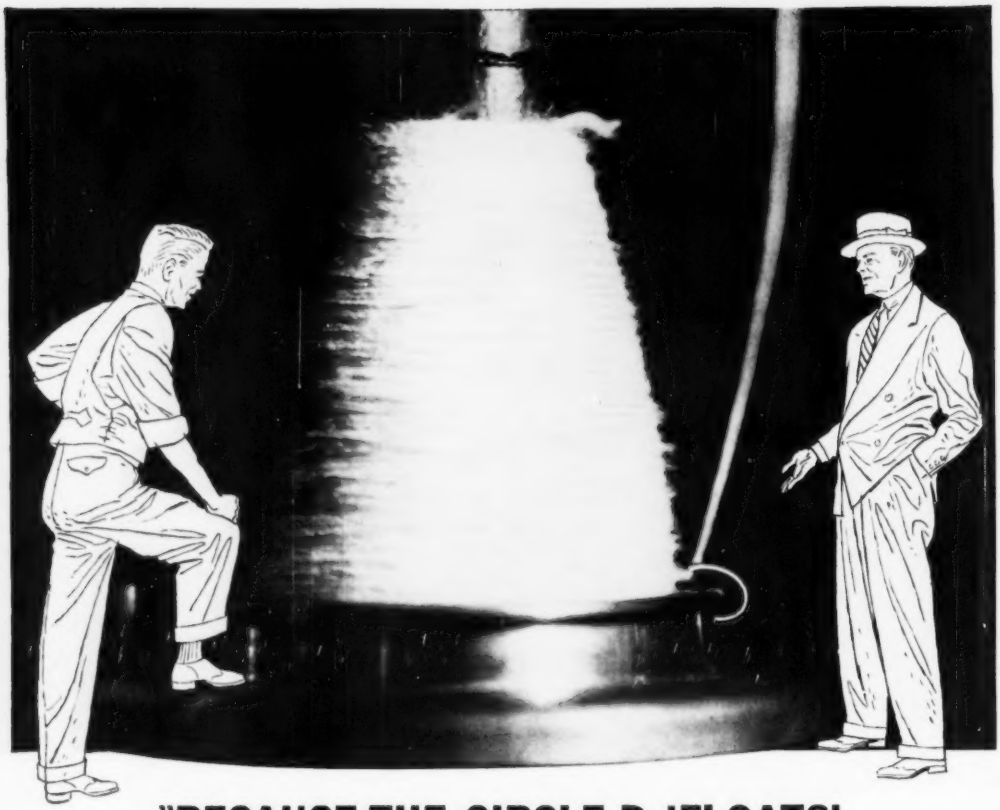
COMPANY, INC.
627 Greenwich Street
NEW YORK

BOSTON PROVIDENCE CHICAGO SAN FRANCISCO CHARLOTTE PHILADELPHIA

VAT DYES OF THE DOW CHEMICAL CO.

Trial Samples Available On Request



"BECAUSE THE CIRCLE-D 'FLOATS' *your production costs sink*"

WHEN TRAVELER LIFE is lengthened from days to weeks, and your yarn yardage is increased at the same time—production costs are bound to go down. And down is where they must go for profitable operation in the face of increasing competition.

The Victor Circle-D, a distinctly different traveler, "floats" around the spinning ring with contact at only one point. This "floating" action reduces friction and heat, so that Circle-D Travelers last much longer than ordinary travelers.

What's more, the Circle-D permits a substantial step-up in spindle speeds with no perceptible increase in ends down—thus increasing the doffs per day. Also, the quality of the yarn is improved, since the flatter curve distributes the wear, prevents sharp grooving and consequent abrasion of the yarn. The result is more yards of a better yarn.

The Circle-D, made only by Victor, is recommended especially for fine combed and special yarns. A Victor Service Engineer will be glad to help you cut costs in your mill with Circle-D Travelers, or help you select the *right* traveler for any fiber, any blend you may be running. Write, wire, or phone the nearest Victor office for prompt service.

★

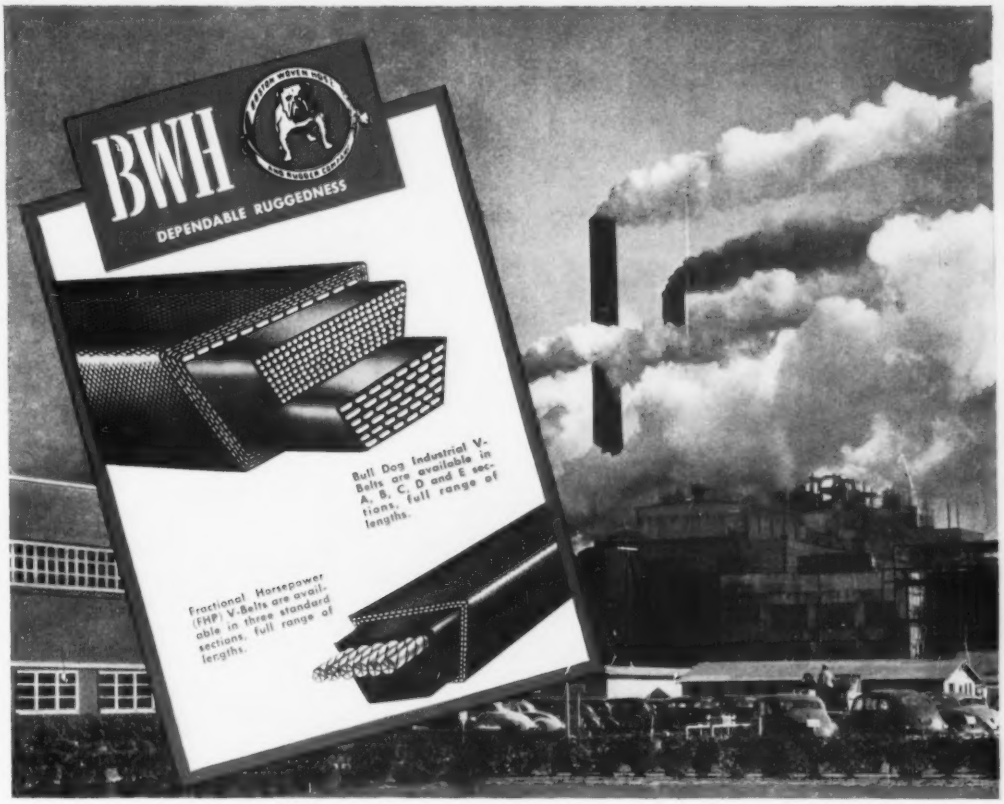
Keep a Step ahead with

VICTOR Ring Travelers

VICTOR RING TRAVELER COMPANY

PROVIDENCE, R. I. . . . . 20 Mathewson St. . . . . Tel. Dexter 1-0737

GASTONIA, N. C. . . . . 358-364 West Main Ave. . . Gastonia 5-0891


BWH
DEPENDABLE RUGGEDNESS
Bull Dog Industrial V-Belts are available in A, B, C, D and E sections, full range of lengths.
Fractional Horsepower (FHP) V-Belts are available in three standard sections, full range of lengths.

HERE'S WHY ALL INDUSTRIES ARE TURNING TO

NEW BULL DOG V-BELTS

Industrial experts agree that the most important factor in improving productivity is better equipment. As a result, they're scanning new products eagerly and giving them thorough workouts. And BULL DOG V-BELTS are among the newcomers that have more than won their spurs in every trial.

It's typical of the 70-year BWH fame for precision that these V-Belts weren't put on the market till they'd been exhaustively tested in the field. BULL DOGS proved they had real tenacity. They gripped tighter, slipped less, stayed on the job longer. And here's the construction that accounts for this superior performance:

1. Exclusive Bull Dog Cord Section has higher tensile strength—able to carry the load and absorb shock.
2. Low Stretch, because exclusive Bull Dog Cords are processed in a new way. As a result there's less slippage, fewer adjustments, longer life.
3. Cool Running—thanks to quality-controlled compounds developed in BWH laboratories, which don't crack or deteriorate under severe flexing.
4. Wear-Resistant covers— made of bias-cut heavy fabric to protect heart of belt from dirt, grease, moisture.

Specify Bull Dog V-Belts on all replacements. You'll find they mean "More Power To You" every time.

HAVE YOU A JOB WHERE STAMINA COUNTS?

Bring us your toughest problems . . . we're specialists in solving them. Consult your nearest BWH distributor or write to us direct.

Another Quality Product of

BOSTON WOVEN HOSE & RUBBER COMPANY

Distributors in all principal cities

PLANT: CAMBRIDGE, MASS., U. S. A. • P. O. BOX 1071, BOSTON 3, MASS.

Here's a cure for "weld headaches"

There are combinations of dyestuffs or corrosive chemicals which attack welded areas of stainless steel equipment but leave other areas untouched.

This is caused by carbide precipitation during welding of regular stainless types—carbon combines with chromium at the grain boundaries, robbing these areas of their corrosion resistance. In subsequent severe service, "intergranular corrosion" may result.

If corrosion at the welds is a production headache you'd like to get rid of, Armco Type 316 ELC Stainless Steel can give you quick relief on your next equipment-buy. It is just as corrosion-resistant near the welds as elsewhere. The reason is that Armco ELC is Extra-Low Carbon (.03% maximum). This very low carbon content eliminates harmful carbide precipitation during welding.

Best of all, Armco ELC prolongs service life and sharply cuts maintenance costs. And ***first cost is less*** than corresponding grades stabilized by the addition of columbium or titanium.

If corrosion at the welds is one of ***your*** equipment problems, you'll want more information about Armco ELC. Just ask for the "ELC Folder" when you write. Or your equipment fabricator will be glad to talk things over with you.

Armco Steel Corporation, 3379 Curtis Street, Middletown, Ohio.
Export: The Armco International Corporation

ARMCO

ARMCO STEEL CORPORATION

CORROSION COSTS

$6,000,000,000.00

ANNUALLY!

No industry escapes ...how much do you pay?

Don't risk needless waste

Corrosion damage is bound to occur. The problem is to provide adequate protection. Conventional coatings often fail when attacked by acids, alkalis, salts, gases and atmospheric conditions. As a result, every industry pays a terrific bill—far more than it should. Your own costs, too, may be larger than necessary. Minimize your risk—do these two things now—

1 — Check up on your costs;

2 — Provide adequate protection for danger points.

Experienced and competent Amercoat engineers are available to help you on both. They'll check up on your costs, which may be greater than you know because the effects of corrosion are often hidden. They'll report on conditions as they find them. They'll recommend steps to take if greater protection can be provided and money saved. Inquiries from interested executives will receive prompt attention. There's no obligation—write today.

AMERCOAT DIVISION
AMERICAN PIPE AND CONSTRUCTION CO.
Dept. 2T, 4809 Firestone Blvd.,
South Gate, California

FOLLOW THE LINE OF *most* RESISTANCE

EXAMPLE OF AVOIDABLE LOSS—The coating on this tank broke down under atmospheric conditions because it was not designed to do a protective job—result, useful life of unit greatly reduced and costly replacement necessary.

A SYSTEM OF SURFACE PROTECTION

NOW

The NEW STERLING* MODEL STAINLESS STEEL LIXATOR*

Brings Maximum Efficiency at Lower Cost to Brine Production

The Stainless Steel Sterling Model Lixator is the last word in brine production. This model Lixator provides added money-saving improvements that mean *still lower brine production costs.*

Stainless Steel Construction for "Lifetime" Use

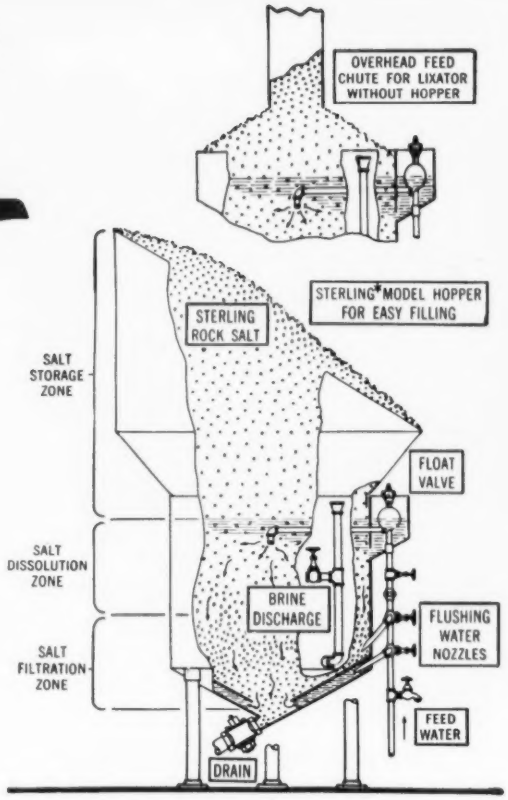
Improved Cleanout System

Lowered Storage Hopper for Easier Filling

Added Cleanliness

The Sterling Model Lixator is manufactured in standard sizes ranging in capacity from 50 to 425 gallons of brine per hour.

Why not consult us about your brine problems? The specialists in our Technical Service Department are available for free consultation. These experienced men will advise you on the proper location for Lixator and salt storage, pumping arrangements, types of pumps, meters and valves. They will show you how the new Sterling Model stainless steel Lixator *means bigger profits for you.* Write today!



WHAT THE LIXATOR PROVIDES

Chemical and bacterial purity to meet the most exacting standards for brine.

Unvarying salt content of 2.65 pounds per gallon of brine.

Crystal-clear brine.

Continuous supply of brine.

Automatic salt and water feed to Lixator.

Inexpensive, rapid distribution of brine to points of use by pump and piping.

PLUS THESE PRODUCTION SAVINGS

- **Ends hauling salt around the plant.**
- **Saves time wasted in making brine.**
- **Stops waste of salt by spilling.**
- **Assures accurate salt measurement.**

The **LIXATE** *Process*

REG. U. S. PAT. OFF.

for making brine

INTERNATIONAL SALT COMPANY, INC.
Scranton, Pa.

*Trade Mark

To help you enjoy a *carefree* vacation

nothing equals Stainless Steel!

WE don't mean to imply that stainless steel equipment *alone* will guarantee trouble-proof plant operation while you are away — but it certainly helps.

With Stainless Steel to safeguard your product from contamination—to prevent off-quality runs —to withstand careless handling and severe use— you can be reasonably certain that as far as your equipment is concerned you have little to worry about.

The peace of mind that the use of Stainless insures is an intangible benefit often overlooked and hard to measure in dollars and cents. But, in importance, it ranks alongside other well-recognized advantages that Stainless Steel offers. Superior corrosion resistance. Freedom from rust and tarnish. High resistance to heat. Low cleaning costs. Longer service life.

These superior qualities of Stainless Steel that pay off in bigger production, fewer shut-downs, and in a better, more uniform product also pay *extra* dividends in making vacations a lot more pleasant by quieting that small inner voice that keeps saying, "Wonder how they're getting along without me at the plant?"

AMERICAN STEEL & WIRE COMPANY, GENERAL OFFICES: CLEVELAND, OHIO · CARNEGIE-ILLINOIS STEEL CORPORATION, PITTSBURGH & CHICAGO
COLUMBIA STEEL COMPANY, SAN FRANCISCO · NATIONAL TUBE COMPANY, PITTSBURGH · TENNESSEE COAL, IRON & RAILROAD COMPANY, BIRMINGHAM
UNITED STATES STEEL SUPPLY COMPANY, WAREHOUSE DISTRIBUTORS, COAST-TO-COAST · UNITED STATES STEEL EXPORT COMPANY, NEW YORK

USS

U·S·S STAINLESS STEEL

SHEETS · STRIP · PLATES · BARS · BILLETS · PIPE · TUBES · WIRE · SPECIAL SECTIONS

9-1603

UNITED STATES STEEL

Why buy piping the hard way When CRANE supplies everything?

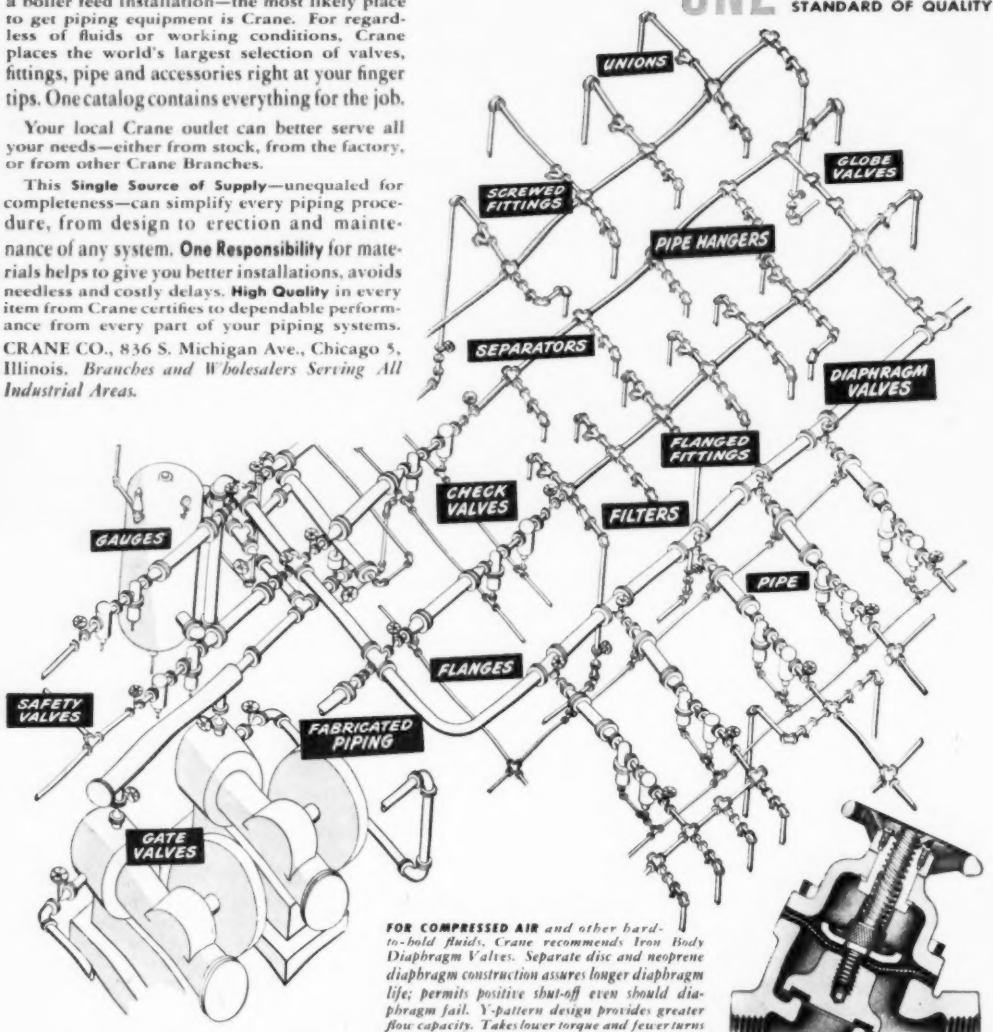
ONE SOURCE OF SUPPLY
RESPONSIBILITY
STANDARD OF QUALITY

For Air Service Piping—as for a superheater or a boiler feed installation—the most likely place to get piping equipment is Crane. For regardless of fluids or working conditions, Crane places the world's largest selection of valves, fittings, pipe and accessories right at your finger tips. One catalog contains everything for the job.

Your local Crane outlet can better serve all your needs—either from stock, from the factory, or from other Crane Branches.

This **Single Source of Supply**—unequaled for completeness—can simplify every piping procedure, from design to erection and maintenance of any system. **One Responsibility** for materials helps to give you better installations, avoids needless and costly delays. **High Quality** in every item from Crane certifies to dependable performance from every part of your piping systems.

CRANE CO., 836 S. Michigan Ave., Chicago 5, Illinois. *Branches and Wholesalers Serving All Industrial Areas.*



FOR COMPRESSED AIR *and other hard-to-hold fluids, Crane recommends Iron Body Diaphragm Valves. Separate disc and neoprene diaphragm construction assures longer diaphragm life; permits positive shut-off even should diaphragm fail. Y-pattern design provides greater flow capacity. Takes lower torque and fewer turns to open or close. Working pressure: 150 pounds, max.; 180 deg. F. max. Sizes: ½ to 4-inch. Write for folder AD-1761.*

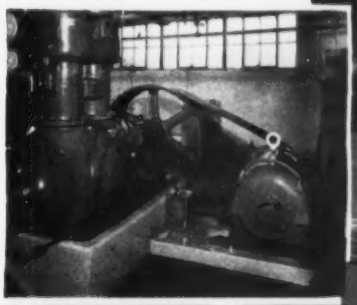
EVERYTHING FROM . . .

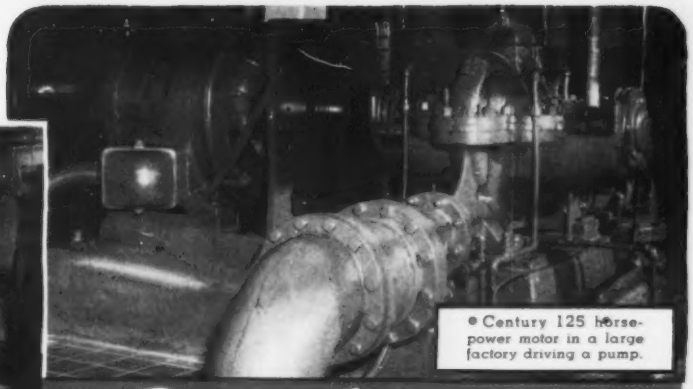
VALVES • FITTINGS
PIPE • PLUMBING
AND HEATING

CRANE

FOR EVERY PIPING SYSTEM

• Century 100 horsepower squirrel cage motor driving a refrigeration compressor.



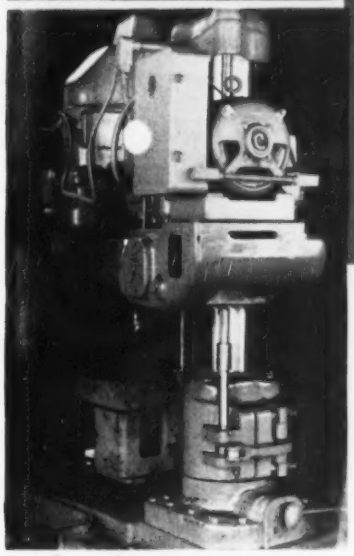


• Century 125 horsepower motor in a large factory driving a pump.

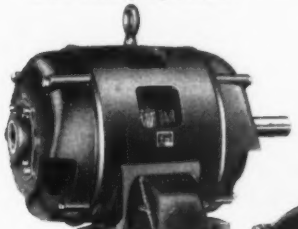
Century MOTORS

Stay on the Job

—Provide Satisfactory Performance Throughout a Long Motor Life



• Century 5 horsepower squirrel cage motor driving a radial drill in a large metal working department.



400 horsepower squirrel cage ball bearing motor.

Century open protected squirrel cage motor.

CE-643

There is a ***correct*** Century motor available to furnish economical power for all popular industrial and commercial applications.

Century polyphase motors are available in addition to the type SC for all normal torque applications—type SCH for high starting torque; type SCT for high torque with high slip; type SR for high starting torque with low starting current and adjustable varying speeds; and Selective Speed Drives for flexible control of automatic operations.

For protection against atmospheric hazards Century offers:

Drip Proof General Purpose Motors — protection against falling solids and dripping liquids.

Splash Proof Motors — protection against splashing liquids, rain, snow, sleet and ice.

Totally Enclosed Fan Cooled Motors — protection against dusts, mist and fog.

Explosion Proof Motors—protection against explosive dusts and gases.

Century motors are built in sizes from 1/6 to 400 horsepower for operation on single phase, polyphase and direct current.

Specify Century motors for all your electric power requirements.

Popular types of standard ratings are generally available from factory and branch office stocks.

CENTURY ELECTRIC COMPANY

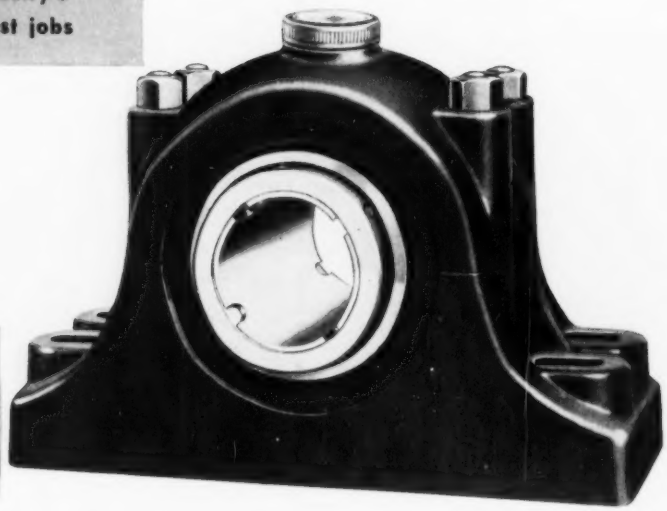
1806 Pine Street
St. Louis 3, Mo.

Offices and Stock Points in Principal Cities

Quality-proved by use on millions of industry's toughest jobs

Mounted, sealed, housed, fully assembled, ready to lock on the shaft

Delivered from stock in 4 basic types and a vast range of sizes



"DODGE-TIMKEN" MEANS QUALITY!

OTHER DODGE "FIRSTS"

TAPER-LOCK SHEAVES
Easy on—easy off—holds fast to the shaft.

ROLLING GRIP CLUTCH
No toggles! Great flexibility—positive drive.

"SC" BALL BEARING
Pillow Block with new Neoprene metallic-backed seal.

It was Dodge who took the famous Timken Bearing, mounted it, sealed it, housed it and delivered a pillow block of new high quality—fully assembled, ready to lock on the shaft and carry the power loads of industry with new efficiency.

Power savings, improved machine operation, reduced maintenance, elimination of spoilage and steadier production—all result so regularly from the application of Dodge-Timken Bearings that this great line is widely accepted as the standard for comparison in up-to-date power transmission layouts.

Ask the Transmissioneer, your local Dodge Distributor, how these bearings and other Dodge "firsts" can help you achieve better, more economical production.

DODGE MANUFACTURING CORPORATION, MISHAWAKA, IND.

100-TON PULL

Three Dodge-Timken Pillow Blocks carry the load of a 100-ton pull of castings in and out of a shot blast chamber for the Falk Corporation, at Milwaukee. The bearings save the gear reducer from side pull and allow the shaft to turn easily even while taking the full load. Perfect operation for 8 years to date.

DODGE

of Mishawaka, Ind.

CALL THE TRANSMISSIONEER. Look for the name of the Transmissioneer, your local Dodge distributor, under "Power Transmission Equipment" in your classified telephone directory.

NAME PLATES

FOR YOUR NAME PLATE REQUIREMENTS, WRITE OUR SUBSIDIARY, ETCHING COMPANY OF AMERICA, 1520 MONTANA STREET, CHICAGO 14, ILLINOIS

Take a vacation regularly

To stay refreshed mentally and physically, get away for your regular vacation.

Have your Full-Fashioned Knitting Machines checked—regularly—to keep them at highest efficiency... Follow a regular program for reneedling and your needle bars are always in shape for better knitting... Follow a regular program for reconditioning and your plant is always at peak performance. We will be glad to discuss this matter of regularity as it applies to your mill operation.

TEXTILE MACHINE WORKS • READING, PA.

The "READING"
Full-Fashioned Knitting Machine

Where Straightness is Required

Textile Spring-Beard Needles are outstanding for precision straightness of butt, shank, stem and beard —straightness where it's important. In the knitting bars, you'll see perfect spacing—accurate alignment for top quality knitting.

This scientifically-accurate straightness is brought about by Textile's quality controls, automatic and electronic, that unerringly check each stage in the manufacture of Textile Spring-Beard Needles.

Perfect straightness is but one of the numerous advantages you get through Textile quality controls. For smoother, finer knitting and uniform results specify Textile Spring-Beard Needles for your needle bars.

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Call your nearest Tide Water Associated office. Let them suggest the Tycol grease best suited to your needs . . . and remember, Tycol green cast greases are made from high quality cylinder stock and well refined neutral oil, with a minimum of soap — a maximum of oil . . . more efficient lubrication per pound of grease.

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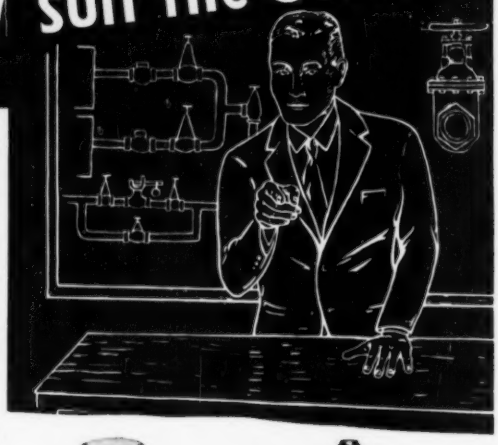
1st Lesson in Flow Control – the Valve *MUST* suit the Service



It's an established fact that there's more loss in time and money through misapplication of valves than from any other known cause.

Fortunately this can be avoided. All you need to do is standardize on the Powell Line of Valves*—because this is what you get—

I More varieties and patterns than are made by any other manufacturer of valves.

II The most complete line of Standard Designs, made of standard materials, for use wherever they fill the requirements of the service.

III Many Special Designs for Special Services.

IV Valves made in the greatest variety of materials ever used in making flow control equipment.

With such facilities at your disposal and Powell Engineers always ready to help you select the right valves, why take chances with your flow control equipment. Standardize on POWELL VALVES.

* Powell Valves are made in Bronze, Iron, Steel and a wide selection of Corrosion-Resistant metals and alloys. Valves of every type—Globe, Angle, Gate, Check, Non-return and Flush Bottom Tank Valves—are included in the Complete Powell Line.

Fig. 1847 — 200-pound Stainless Steel Swing Check Valve. Screwed-in cap and regrindable, renewable disc.

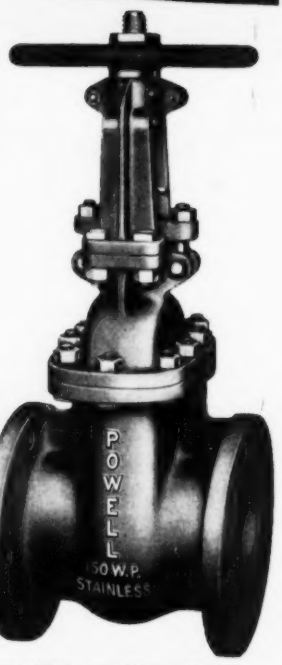


Fig. 2453-G—Large 150-pound Stainless Steel Gate Valve. Bolted flanged yoke-bonnet, outside screw rising stem and tapered solid wedge. Made in sizes 5" to 30", inclusive.

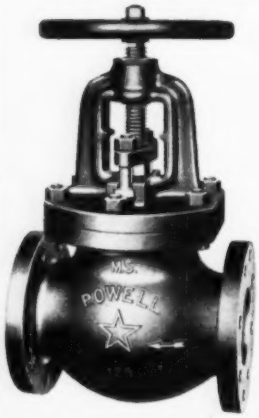


Fig. 241—125-pound Iron Body Bronze Mounted Globe Valve with outside screw rising stem, bolted flanged yoke, regrindable, renewable bronze seat and disc.

Fig. 150—150-pound Bronze Globe Valve with screwed ends, union bonnet and renewable composition disc.

Fig. 375 — 200-pound Bronze Gate Valve. Screwed ends, union bonnet, inside screw rising stem and renewable "Powellium" wear-resisting nickel-bronze disc.

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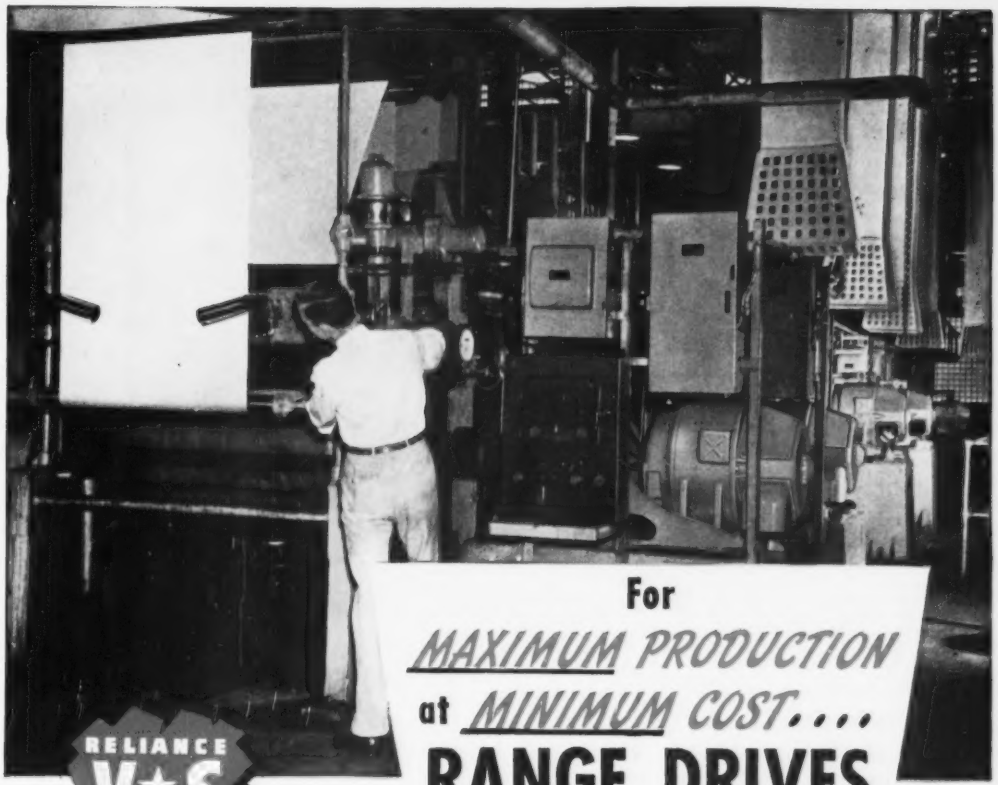

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Engineered by Reliance

The Reliance V★S System, providing quick, smooth starting, stopping and regulation of speed from A-c. circuits, is being employed in more and more range drives today for two reasons. It assures the highest possible rate of production on any given range—and does this at lowest possible cost! The V★S System is flexible—can be employed in variations to suit the requirements of any job. In the hands of Reliance engineers who have the know-how of over 30 years of specialization in the scientific planning of range drives, this system can make your investment pay unexpected dividends. A Reliance Application Engineer will work with you in modernizing present equipment or planning the best drive for new equipment. Just phone your nearest Reliance office.

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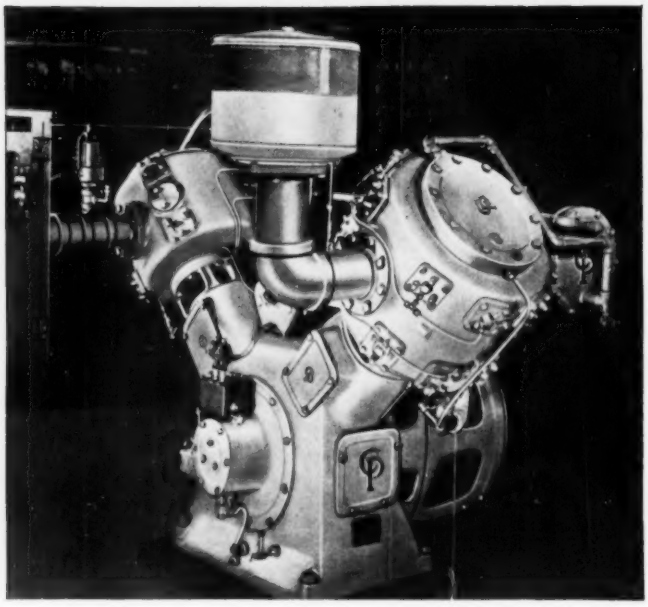

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—the Type Y Compressor

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It is shipped intact as a "package unit," ready for external connections.

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It operates at high efficiency because of such valuable features as large area Simplate valves, multi-step capacity regulation, effective inter-cooling, precision bearings and force-feed lubrication.

And finally it's extremely easy on maintenance.

Available with built-in or direct-coupled motor, or with V-belt drive, in capacities of 500 to 900 c.f.m., at 80 to 125 pounds pressure. Sizes for other pressures also furnished.

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ONE OF 486
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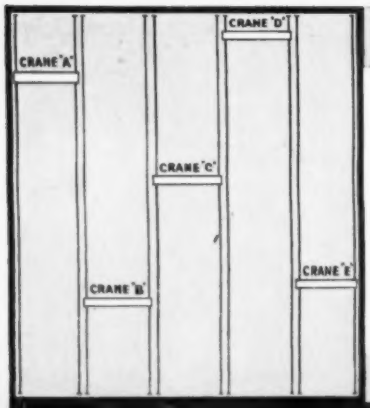

Because the beams are conveyed above the looms, note how close together it has been possible to locate the rows of machines in this room. This means more looms in a given floor area.

TRAMRAIL CRANES SIMPLIFY BEAM HANDLING IN WEAVE ROOM

Five crane runways with one 2000-lb. manually-operated crane on each, serve this weave room with approximately 700 looms.

There is no easier, simpler, more efficient way to handle beams in the weave room than by overhead materials handling equipment. One man transports a beam with ease on smooth rolling Cleveland Tramrail cranes.

Regardless of how closely spaced are the looms, beams can be conveyed, placed into or taken out of them quickly and safely. Only space enough for the operator to walk in is required.

Inexpensive hand propelled cranes have proven admirable for this service. The equipment requires practically no maintenance. It is easy to install and can usually be erected without hindering production.

Let Cleveland Tramrail engineers give you the details. It may be possible to install more looms in your present floor areas as well as make your beam handling more efficient.

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Bull-dozers and steam shovels ended pick and shovel methods in earth moving. So modern strip mill facilities banished pick and shovel techniques in rolling stainless sheet and strip. Climaxing this progress, CRUCIBLE, a *specialty steel* producer for half a century, has built an $18,000,000 mill at Midland Works *specifically* for rolling stainless steel—the *first mill* that has ever been built to take complete advantage of the *best* in stainless rolling practice.

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CRUCIBLE first name in special purpose steels

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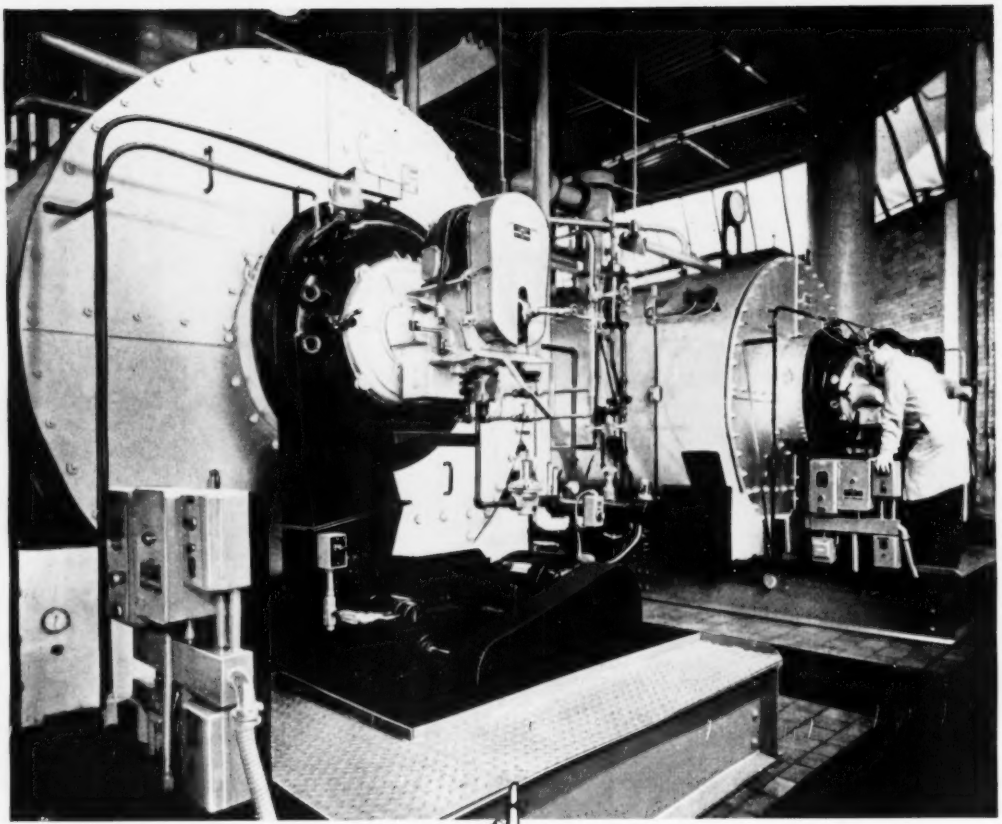

Never Forget

BOILERS BURN DOLLARS . . .

Yes — generating steam costs money — money for fuel, boiler operation, care and maintenance. An old or outmoded fuel-wasting boiler can burn many hidden dollars through excessively high steam costs.

It's sound business to install boilers that give you the most for your steam dollars — modern, guaranteed high efficiency Cleaver-Brooks boilers, using oil or gas as fuel.

For any boiler installation (15 to 500 HP.)—new or replacement—Cleaver-Brooks offers these immediate and long-range cost-saving advantages:

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Factory Starting Service: Your boiler is placed in operation by Cleaver-Brooks factory service-engineers. Your operators are trained in operation, care and maintenance.

Flexible Operation Burning Gas or Oil With Equal Efficiency: You can use oil, gas, or combination oil and gas, whichever is of lower cost. Through their high heat transfer, Cleaver-Brooks boilers operate at a guaranteed efficiency of 80% from full load down to 30% of rating.

In addition, Cleaver-Brooks boilers give you clean, smokeless operation — eliminate fuel and ash handling — require no high or costly stacks — no special foundations — fit under low headroom — provide quick steaming, flexible operation to meet fluctuating loads — fully meet all codes.

Available in sizes 15 to 500 HP., 15 to 200 P.S.I. — write for Cleaver-Brooks steam boiler bulletin.

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STEAM BOILERS

WARPING FROM RAYON CAKES is an important current project at the Textile Research Dept., American Viscose Corp.

Technical Developments Flow From RESEARCH PLANT

HIGHLIGHTS: *Many major advances in textile technology originated by Textile Research Dept., American Viscose Corp.—1949 marks tenth anniversary of founding—Survey of current activities indicates further contributions to textile technology in future.*

IN THE CONFERENCE ROOM of the Textile Research Dept., American Viscose Corp., hangs this quotation:

"According to recognized aerotechnical tests, the bumble bee cannot fly because of the weight of his body in relation to the total wing area . . ."

Doing the seemingly impossible has been a steady task during the ten years the plant has been in existence. In this time, contributions to textile technology have constantly flowed from the practical-research unit.

Among the major contributions to the industry have been the following:

1. Cake soaking of crepe yarns.
2. Introduction to this country of the suction-drum dryer for knit fabrics.
3. Avconit size for rayon and nylon hosiery yarns.
4. Quill winding from cakes.
5. Use of varied-length staple for worsted- and woolen-system spinning.
6. A new method for measurement of diffusion penetration of direct dyes in viscose materials.
7. Introduction to this country of overfeed pin tenter for drying rayon fabrics.
8. Development of presetting machine for acetate and Vinyon fabrics.
9. Paper cake covers.
10. Stabilization of polyethylene fabrics.
11. Introduction of viscose staple for use in bonded webs.
12. Use of crimped, fine-denier, long-staple fiber for spinning asbestos yarns.
13. Trade methods for handling rayon staple on the cotton, woolen, and worsted systems.
14. Trade methods for handling rayon yarns and staple in knitting, weaving, dyeing, and finishing.

The scope of current activities of the Textile Research Department indicates that the flow of interesting developments and information will continue. Among the machines now under study at Marcus Hook are the Pacific tow-to-top converter, the Warner & Swasey pin drafter, a presetting machine for acetate and Vinyon fabrics, the Barber-Colman high-speed bobbin winder, and the Proctor & Schwartz pin tenter. Among processes under study are direct spinning from tow-to-yarn, warping from cakes, long-draft spinning, and cake dyeing.

The organization of the department and the men who operate it are arranged according to functions. A review of the functions and past and current activities of each division is presented on the following pages.

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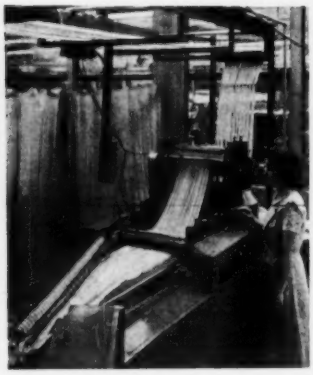
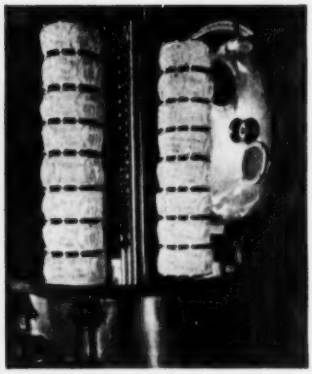
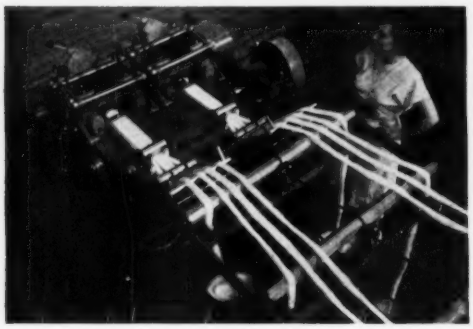


PACIFIC CONVERTER cuts continuous rayon tow and blends it with wool top.

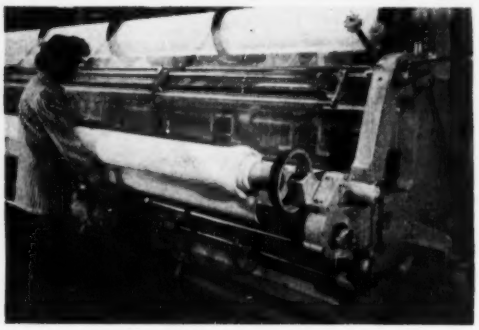
2200-DENIER TOW is spun into 30s yarn on this Saco-Lowell direct spinner.



VISCOSE CAKES are dyed under pressure in the newly adopted paper covers.



THE PIN DRAFTER is used for experimental spinning of rayon staple on the worsted system.



TWO-BAR WARP KNITTER turns out tricot fabric. Development of tricot knitting was a major project.

TEXTILE DEVELOPMENT. A succession of adventures is synonymous to the textile development division and well describes its experiences. These adventures sometimes develop practices later adopted by many manufacturers, and they influence the destiny of millions of pounds of rayon as well as other textile fibers. Other adventures merely hold academic interest; still they build up that backlog of knowledge which helps solve modern textile problems.

Back in 1940, when millions of yards of crepe fabrics were annually produced from rayon treated in the skein form, the problem was presented to devise a procedure to crepe-treat yarn in cake form. The first attempt involved only a small amount treated with limited means. Within two years the modest attempt with 50 lb. grew to encompass millions of pounds. The present procedure still involves the same basic principles applied in 1940.

By contrast, another adventure consisted of running on tricot machines a continuous-filament Fiberglas yarn. Strangely enough, success was met with very few difficulties. The main complication consisted of applying the proper type of stitch formation to circumvent the low loop strength of Fiberglas. To T.R.D.'s knowledge, this attempt was another first. However nothing materialized out of it. Still it has contributed in no small measure to textile know-how.

WEAVING. Practical execution of new designs for rayon fabrics, whether filament, spun, or spun blends, are part of every day's work in the weaving division. These fabrics, designed by the fabric-development department, are available to customers for manufacture. Such pattern work and other requests for unusual constructions provide stimulation and help broaden the market for rayon products.

Considerable work is done with machinery manufacturers, evaluating their developments and suggesting changes where needed. Trouble shooting at customer plants is another valuable service.

KNITTING. A study of acetate yarns as to their shrinkage, strength, and durability in warp-knit fabrics is being actively pursued in the knitting division of the department.

Of particular interest to the circular-knitting field is research work on plied yarns for men's socks. Crimped viscose staple and cotton are blended 50/50, or 75% rayon and 25% cotton. The hand contributed by the crimped staple is said to be particularly desirable. Shrinkage is retarded by the use of rayon-cotton blends.

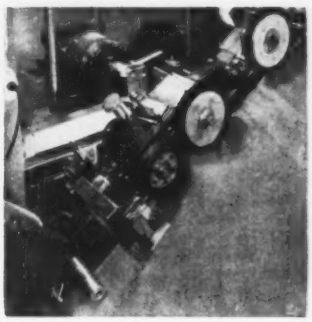
Considerable attention is also being paid to cotton-rayon blended yarn for children's polo shirts. A 40/2 yarn is being used. By blending carded cotton with rayon of a uniform quality, both a price advantage as well as an appealing hand are gained.

DYEING AND FINISHING. Continued progress in the development of both dyeing and finishing techniques and machinery are accomplishments benefiting many dyers and finishers of rayon yarns and fabrics.

The use of the pad-back technique to eliminate warp streaks in direct-dyed spuns as well as in viscose-wool blends is currently being stressed. An improved technique in dyeing continu-

***HEAVY-DUTY RAYON** tire fabric is woven directly from the creel. Various deniers were experimented with here.*

***PRESETTING MACHINE** eliminates tacking and uncurls edges of knitted fabrics.*



***THE OVER-FEED PIN TENTER** was introduced to the U. S. by Textile Research Dept.*

ous-filament-viscose skeins has been very successful in the improvement of dyeing levelness and in the after-winding from the skeins.

Latest machinery development offered to the trade is a presetting machine for acetate warp-knit fabrics to eliminate tacking and selvage curling.

Active projects also include cake dyeing of continuous-filament viscose and mock-cake dyeing of spun-viscose yarn. Additional studies are being made on the stabilization of spun-viscose fabrics through the use of alkali-soluble cellulose ethers alone (Ceglin) and in combination with other chemicals. Development of the same ethers as permanent finishes to change hand and appearance is also being stressed.

COTTON. Every new type of experimental rayon staple produced at the staple-development plant is processed into a spun yarn in the cotton mill at the Textile Research Dept. Such testing is routine for crimped staple, short-staple blends, Vinyon N, stabilized staple, and for competitive fibers as well.

Better methods of processing staple are worked out by comparing processing advantages of one type of machine with another type. Recently, tests indicated that combed-wool top was preferred to scoured wools for the cotton-spinning system even when double carding of the scoured wool was accomplished.

Direct spinning is being explored to study the problem of converting a heavy-denier filament yarn into a spun yarn.

Frequently stock is processed according to customer specifications to assist him in the best processing technique.

The book "Spinning Rayon Staple on the Cotton System" is the result of work done in cotton-system processing. This publication, containing technical information for use in the textile industry, has been given wide distribution in the United States and in foreign countries.

WOOLEN AND WORSTED. Crimped staple in blends with other fibers is finding wider acceptance, particularly in the men's-suiting trade. Developmental work of this nature is done by the woolen and worsted division. Crimped staple is also being introduced for use in hand- and machine-knitting yarns. Rayon staple for carpet yarns is also an active project.

Much emphasis is being given the development of uniformity of top throughout its length. At the same time, efforts are being directed toward the mechanical improvement of the Noble comb. Such improvements could contribute to uniformity of either wool or rayon top.

Considerable attention is being given new processing methods for rayon and rayon-wool blends that involve the Pacific converter and the Warner & Swasey pin drafter. The new procedures involve the use of one or both of these machines, depending upon the problem. The extreme flexibility of these machines, combined with excellent fiber control, has permitted the successful processing of a wide variety of blends.

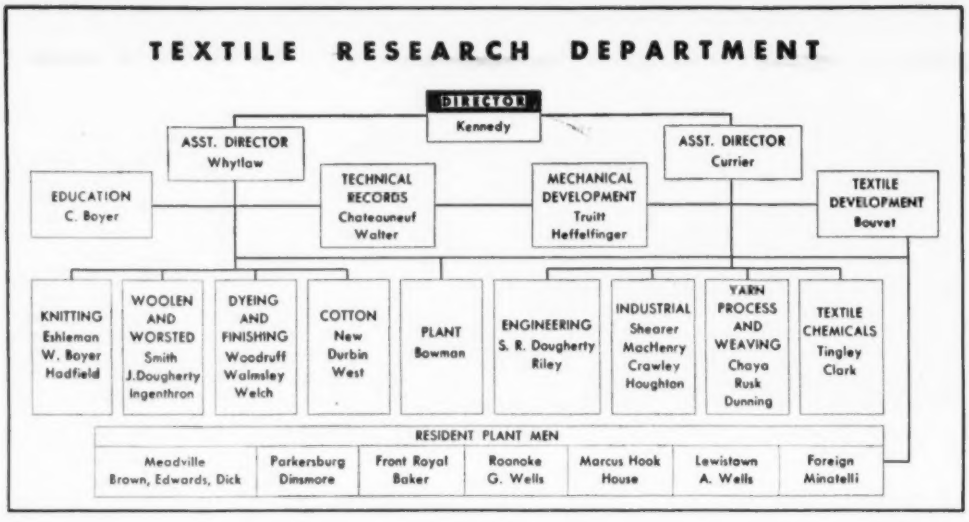
TECHNICAL RECORDS. Recording and transmission of data concerning customer complaints and acting as a liaison group between the sales, manufacturing, and standards departments in this respect, is the main function of the technical records branch.

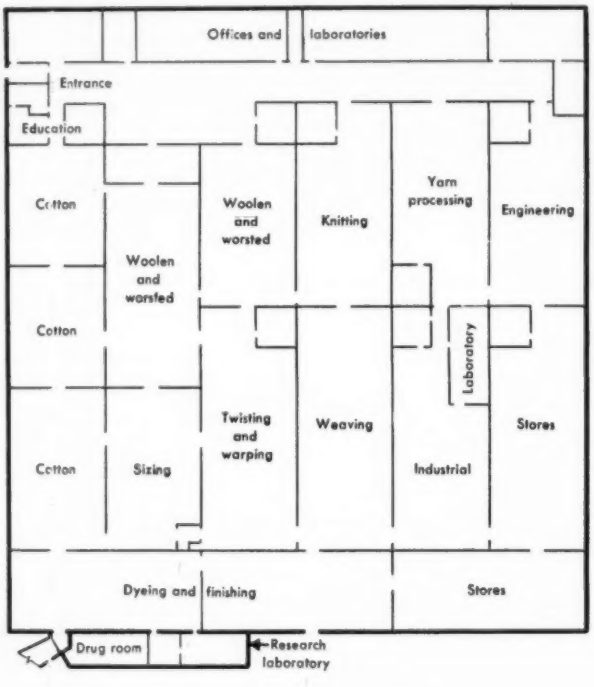
It also is the responsibility of this group to maintain records on the many textile-research projects carried on within the department.

TEXTILE CHEMICALS. The chemicals staff provides a general trade service for all fibers, as well as rayon. Emphasis is on the development of textile-processing assistants that provide the greatest possible efficiency in processing. Products combining lubrication, softness, and antistatic properties are being used in the trade with great success to lubricate dyed yarns for knitting, weaving, and other operations. Of current special interest is the use of Avisco Lubricant 100 for spun-rayon or cotton yarns dyed in pressure equipment to improve winding efficiency. Similar results are being obtained in applying this finish to dyed filament rayon, spun rayon, cotton, nylon, and wool skeins. The antistatic property is said to insure static-free processing of acetate and nylon yarns.

Processing assistants developed by the Textile Research Dept. are:

Avconit—a size for knitting yarns; voile-twist filling yarns.
Avisco Lubricant 100 and 104—a lubricant, softener, antistatic agent for all types of dyed yarns.
Avcosew—a lubricant for all kinds of sewing thread.
Avcodisk—a wax disk-type lubricant for knitting yarns.
Avisco Lubricant 20—a fiber lubricant





SIX MILLS UNDER ONE ROOF

The unique pilot plant of the Textile Research Dept., American Viscose Corp., Marcus Hook, Pa., is believed to be the only one of its kind in existence. The unit houses six textile mills under one roof for cotton yarn, woolen yarn, worsted yarn, weaving, knitting, and finishing. Processes are carried out on full-size commercial machinery that duplicates much of the equipment in modern textile mills. Nearly 100 men and women operate these machines and represent over 150 skills. Research is consentrated on new fibers for new uses, new fabrics, and new machinery. The staff specialists combine the know-how of the industry with the scientific attitude of "how can it be done better?"

and antistatic for rayon and nylon staple, and wool processing.

INDUSTRIAL. If it is anything from a new tea-bag paper to a conveyor belt with a heavy-denier rayon yarn in it, the industrial division, no doubt, has contributed its research ideas. Over 100 industrial uses for rayon yarn and staple are on the active list for development right now.

Because of the wide diversification of activity, it is impossible to have all the needed commercial equipment at hand. Instead, the feasibility of the use of rayon in an industrial product is frequently determined by laboratory means. Commercial facilities of customers are used to complete the study.

MECHANICAL DEVELOPMENT. The mechanical-development group works cooperatively with equipment manufacturers and textile mills. Thus the division advances all vital fields of textile processing.

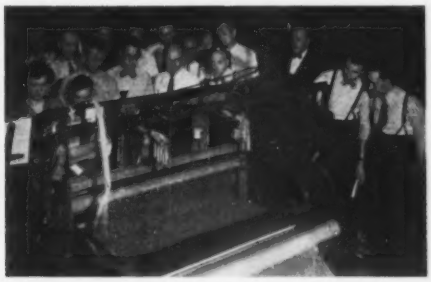
Recently, a member of the dyeing and finishing staff passed along an idea to eliminate the curling of warp-knit fabrics in wet processing. The mechanical-development branch developed the method for making the idea work. Working from drawings for this method, the engineering division completed the work. Today the new machine is being commercially produced by Van Vlaanderen Machine Co.

Among its many projects, this group is currently engaged in advancing the technique of producing tire cord.

ENGINEERING. A complete machine shop and a staff with a variety of skills make possible all types of metal and wood working. These men are called upon many times to maintain, install, and even construct intricate machines

THE VISITORS

VISITORS ARE MET by the Research Dept. station wagon, which brings them to the department door.



BRITISH rayon-weaving team observes high-speed rayon weaving during a recent visit.

FACULTY MEMBERS of ten textile schools attended a seminar to learn latest rayon-processing techniques.

MEMBERS OF AATT (American Association of Textile Technologists) have made two visits to the department.

for the various divisions within the department.

EDUCATIONAL BRANCH. In addition to welcoming the hundreds of visitors to the Textile Research Dept., the educational branch outlines and directs textile programs specifically planned for selected groups.

The text for "Rayon Technology—Handbook for Textile Mills" was prepared by various divisions and edited by the educational branch prior to publication by McGraw-Hill Book Co. A library and information service is also provided for members of the department.

CUSTOMER SERVICE. Always available to help solve customers' problems are specialists in the cotton, woolen, and worsted systems of spinning; in yarn preparation and weaving; in knitting; in dyeing and finishing; in textile chemicals; and in industrial end uses.

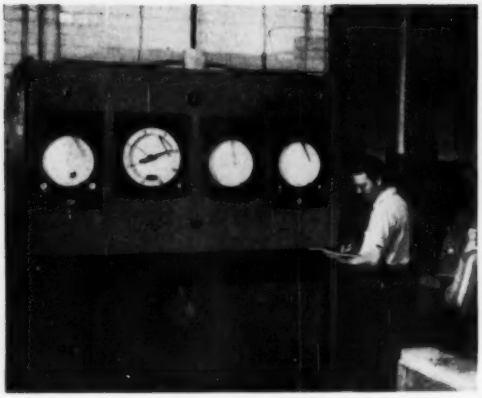
Customer problems are not always easy. Years of combined textile experience may be required to solve the puzzlers. For example, one mill had considerable difficulty with a filament yarn which appeared so weak that as it unwound from the quill it broke. Peculiarly, this yarn when pulled taut in a normal fashion showed its regular strength. But in unwinding and being pulled over-end this yarn did break. Two specialists of the T.R.D. staff visited this mill to help this customer get back into production. Studying very closely each motion of the yarn as it unwound from the quill, it was observed that the break occurred near the end of the wooden quill. The surface was very smooth, yet the yarn broke every time. A bit of "detective" work showed that as the yarn came in contact with the quill, a chemical change occurred because of the solvent used in soaking the yarn and the varnish used on the quill. The chemical reaction weakened the yarn.

RAYON TECHNOLOGY was written by staff of the Textile Research Dept.

VISITORS. Textile men, chemists, and government personnel of such countries as Australia, Belgium, China, Egypt, Sweden, and the Union of South Africa have visited the Textile Research Dept. Princes from India and counts from Europe have been guests. With such world-wide popularity, little wonder the total number of visitors over ten years has reached practically 10,000. A record high was set in 1947 with 2,656 visitors.

Appointments for visits are usually made through the corporation sales offices. The educational branch of the Textile Research Dept. takes care of the details when the visitor arrives.

The latch string is also out to machinery builders, associates in allied industries, retail buyers, and textile-school faculties and students. Some time ago, the department was host to the members of the American Association of Textile Technologists on two special days. Not only were many new machinery developments observed, but the group was given the opportunity to hear some of the staff specialists discuss these new developments and their place in the textile economy. Groups of engineers in related fields frequently visit the department to become better acquainted with specific textile machines and problems.



CENTRAL CONTROL INSTRUMENTS HERE . . .

REFRIGERATION-ROOM CONTROL PANEL shows pressure-relief controller, outdoor wet-bulb controller, chilled-water flow meter, and chilled-water temperature. These units regulate the over-all operation.

. . . REGULATE AIR MIXTURES HERE

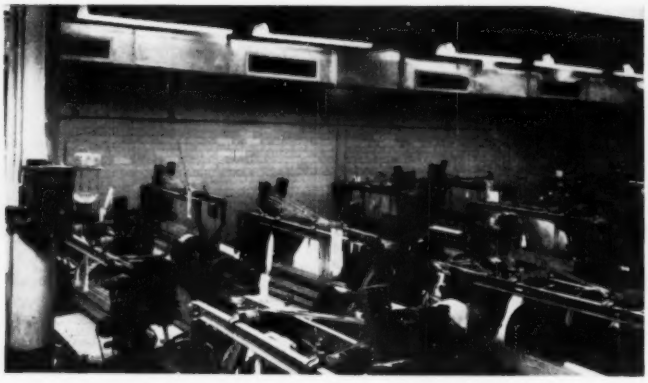
ROOF MONITORS contain outside and return-air dampers, operated automatically by the control instruments downstairs. The dampers provide the proper mixture of cool and warm air for the desired atmospheric conditions in the building.

Precision CONDITIONING
Achieved at Revolution Mills

HIGHLIGHTS: *New installation provides "pilot-plant" atmospheric conditions for full-scale rayon operation—Air-conditioning units are housed in monitors on roof—Dampers regulate air mixture—Refrigeration room provides for chilled water when necessary—Wet- and dry-bulb temperature tolerances maintained closer than ±1°.*

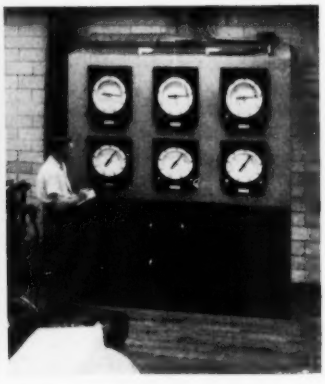
By HARRY SCHADEN

A REFINEMENT IN air conditioning a textile mill—and one regarded by engineers as a step toward absolute control of temperature and humidity—has been introduced in the



WEAVE ROOM CONDITIONS ARE MAINTAINED BY . . .

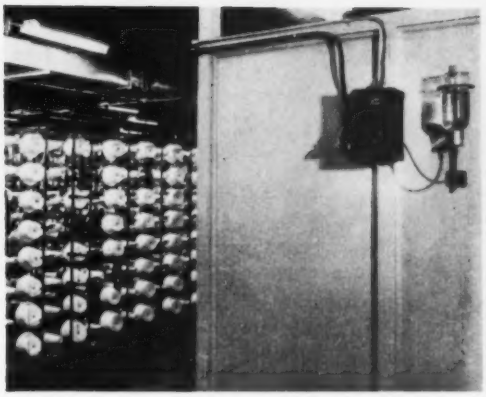
THERMOMETERS of the wet- and dry-bulb type are located in each of six zones. Humidity and temperature are kept at the levels desired in the zones. Atmospheric conditions are simultaneously recorded.



. . . UNITS LIKE THIS

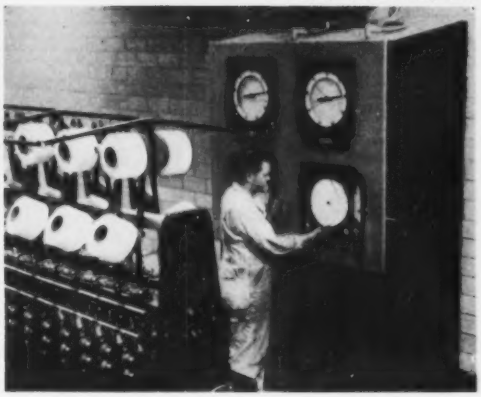
ELECTRONIC CONTROLLERS, three wet-bulb and three dry-bulb, are mounted on this cubicle and another one like it.

All photos by Cuze, Greenville, S. C.



PREPARATION DEPARTMENT CONTROL IS . . .

ZONE CONTROL CABINETS are located in two places, this one being near the warping operation. By controlling from room temperature, relative humidity has been maintained at a differential of ±1%.



. . . PROVIDED BY THESE INSTRUMENTS

APPARATUS CONTROL PANEL is accessible from either front or rear. Each instrument can be controlled manually if desired, making it possible to start, test, and service the equipment readily. Calibrated accuracy of instruments is ¼ of 1%.

recently constructed Cone Mills Revolution rayon plant, Greensboro, N. C.

The new installation provides "pilot-plant" atmospheric conditions for full-scale operations by controlling the atmosphere from the processing space at room temperature, rather than from outside points. By controlling from room temperature, it has been possible to maintain relative humidity at a differential of ±¼%.

In designing the mill, the owners had two objectives, (1) to make the mechanical operation as efficient and automatic as possible, and (2) to make the atmospheric control as precise as possible.

The plant is a complete unit, processing rayon from staple yarn through weaving. The building is one story high with a basement under about three-fourths of the area and is constructed of structural steel and brick. The thick walls are insuated with nonorganic material and lined on the inside with structural glazed tile. The main floor is divided into a preparatory department, an area 135x150 ft; and the weave room, 270x150 ft. These units are separated by a floor-to-ceiling partition.

MACHINERY LAYOUT. Yarn-processing equipment in the first room consists of four 30-spindle, Whitin-Schweiter winders, ten U. S. Textile Machinery Co. 110-spindle doublers; nine U. S. Textile Machinery Co. 240-spindle double-deck twisters; one Universal 120-spindle Roto-Coner, and three Abbott automatic quillers. Two Cocker high-speed warpers, two Cocker high-speed slashers, two cooking kettles, one storage kettle, and one size pump complete the warp preparation set-up in this room.

Weave-room equipment consists of 150 C&K C-5 looms; 210 Draper looms Model XP; two portable tying-in machines, and one Terrell quill stripper. The cloth room contains latest equipment for inspection and grading.

Since the building site did not permit construction of air-conditioning equipment rooms, the management decided to place this equipment in three roof monitors constructed as integral parts of the building. One monitor serves the preparatory department, and the other two serve the weave room.

Four air-conditioning units are housed in the preparation-department monitor and three in each of the other monitors. Each unit has a nominal rating of 22,000 cfm. and consists of a two-bank spray washer, with fan section and intake section for outside and return air. Instead of following the usual practice of providing a separate water-recirculating pump at each air washer, only one water supply is used.

FLEXIBILITY OF SYSTEM. The layout has proved to be flexible. After the building was erected and the air-conditioning equipment delivered, it was decided to abandon plans for spinning operations because equipment could not be obtained. Alterations in the air-conditioning set-up were made without changing the equipment or losing any time.

This original flexibility is maintained in the automatic-control system. Each of the ten air-conditioning units in the monitors is equipped with a temperature-sensitive detector and wet-and-dry resistance bulbs. These regulate the flow and temperature of outside and return air by governing opening and closing of dampers and circulating fan speed.

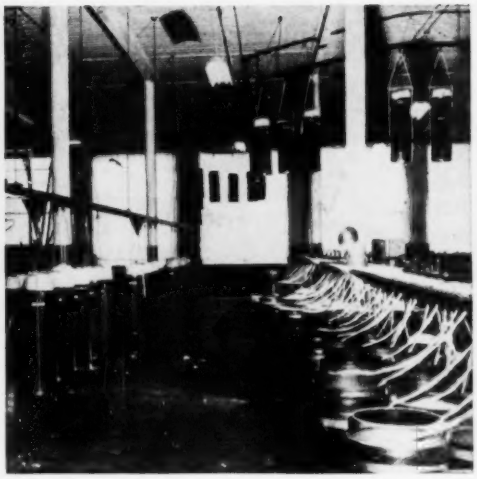
In wintertime, when the outdoor wet-bulb temperature is low, it is possible to maintain room control by regulating outside air and return air in the proper amounts. In the summer, chilled water is introduced into the system, and temperature is controlled with a throttling valve. An air filter and pressure-reducing valve are provided for each instrument and air-washer unit.

Six Brown electronic controllers—three wet-bulb and three dry-bulb—maintain the desired atmospheric conditions in areas served by each of the two weave-room monitors. Aspirator boxes are located at six points in the room, making it possible to provide the best humidity and temperature conditions at six different points. The preparation department, in turn, is divided into two zones controlled in the same way.

Calibrated accuracy of the control instruments is rated at ¼ of 1%, and wet- and dry-bulb temperatures have been held to plus-or-minus one quarter of one degree. Heretofore, closest tolerances have been ± 1°.

Each instrument can be controlled manually from the control panel if desired; making it possible to start, test, and service the equipment readily. A dial can be set to provide four different methods of operation: (1) automatic, (2) servicing, (3) testing, and (4) manual.

CARD SLIVER LOADED on the third floor of Pepperell Mfg. Co. Opelika, Alabama, mill moves by overhead-chain conveyor to lap machines on second floor.



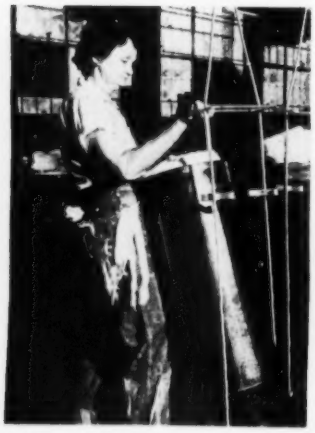
CONVEYOR ARCS over working-area machines hold sliver cans aloft by means of special steel-frame holder. Stock is identified by chalk mark on can.

Two-Floor CHAIN CONVEYOR Moves Full Sliver Cans

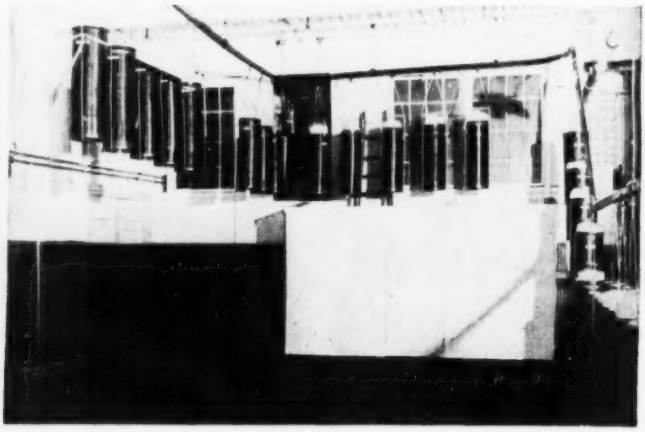
HIGHLIGHTS: *Pepperell Mfg. Co. moves 4,000 lb. of sliver by overhead track every hour—Unique 7-ft.-per-min. handling system connects cards, lap winders, combers, draw frames, and roving frames—Cans held in 3/8-in. cold-rolled-steel frames.*

By L. J. WILLIAMS

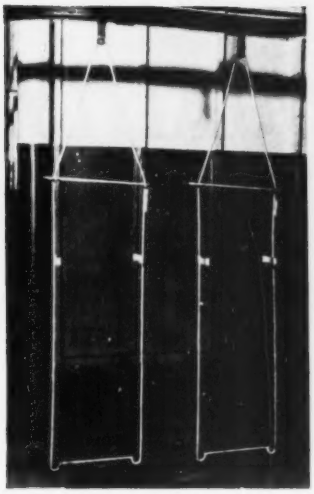
FULL SLIVER CANS CIRCULATE (on an overhead-chain conveyor) through the card room of the Pepperell Mfg. Co. Opelika, Ala., plant. A roving hand ready to creel identifies his stock by the color of the chalk mark on the can. He merely raises a simple metal bar to release the can so that he



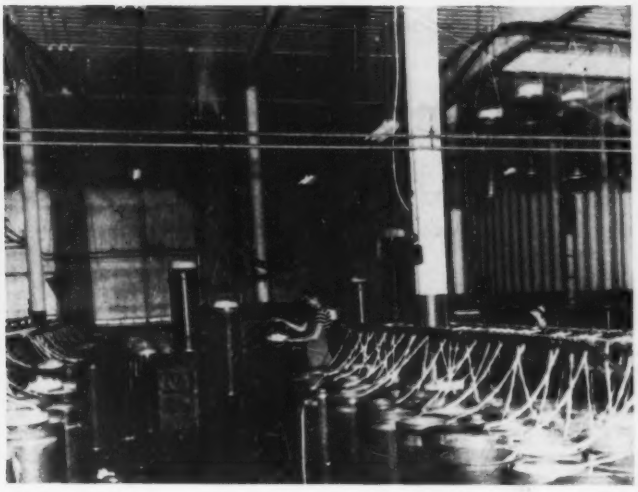
SLIVER HANDLING at drawing frame is speeded by the 7-ft.-per-min. conveyor.



PASSAGE BETWEEN FLOORS occurs at this door. View is from second floor. Cans on left come from cards; those on right go to roving frames.



SPECIAL FRAME of two ⅜-in. cold-rolled steel rods holds full sliver can steady, accommodates cross bar to prevent sliver toppling.



CAN CHALK MARK shows roving-frame operator that her stock has arrived. She unloads can for creeling behind Pepperell's modern roving frames. Conveyor hauls empty cans back to card room.

can place it in creeling position. The chain moves 7 ft. per min.; the empty holder continues to circulate on an endless track that connects cards, lap winders, combers, draw frames, and roving frames. Empty cans are returned to their respective origins.

Behind this simple procedure for modern handling, one at the most unusual in the industry, there was a background of production bottlenecks, crowded floor spaces, and overtaxed elevators. Partly responsible for the need of overhead semi-automatic handling was the unusual arrangement of the machinery for carding and combing Pepperell high-quality stock.

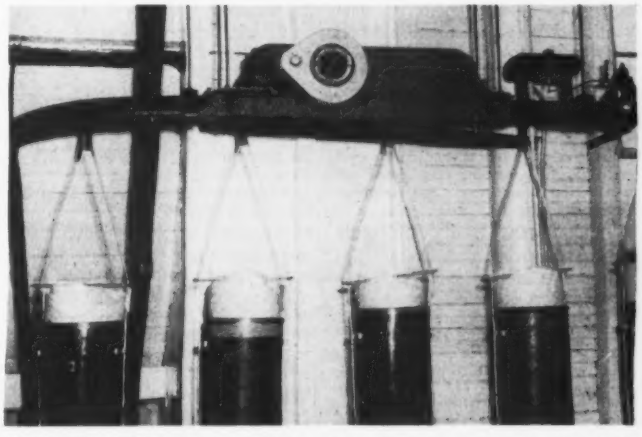
Cards and roving frames were on the third floor; lap winders, combers, and drawing frames were on the second floor. Cans of sliver accumulated in the spare floors of the various departments. Empty cans were not always on hand for doffing. Excessive storage hindered production work of the operatives, and stock of sliver was in irregular supply. Two operators on each shift were kept busy carrying cans of stock between the various floors and machines.

To solve the handling problem, Pepperell devised a unique holding grab for sliver cans and installed the overhead chain conveyor connecting the various machines. This was not simple, however.

Besides structural problems, the chain conveyor presented a possible hazard because of the motion over such a work area as the card room. This hazard was removed by raising

(Continued on page 214)

CHAIN LINKS are ball-bearing rollers, two vertical ones driven on the track channel, one horizontal roller turned by surface contact with track sides.



AUTOMATIC LUBRICATION is supplied both the ½-hp. motor (top center) and the chain by means of oil tank and valve (right).

Use Operating Tests To Improve YARN QUALITY

HIGHLIGHTS: *Tests prove a valuable check on efficiency, job assignments, and machinery maintenance—Systematic follow-up is necessary if proper results are to be obtained.*

By E. H. HELLIWELL
New England Editor, TEXTILE WORLD

HOW WELL IS THE WORK RUNNING on the roving and spinning frames? Vague answers as bad, fair, or good mean very little. How good? How bad? Why? What are reasonable end-breakage standards for good-running work? How near do your frames approach these standards? A well-planned schedule of end-breakage tests will furnish precise current answers to all these questions.

Operating tests, to be fully effective, should cover all types of frames from slubbers to spinning frames. Some progressive mills correlate the results of loom-stoppage tests with the records of end-breakage tests on the spinning frames. Some find a direct connection and relation between them. If loom stoppages due to mechanical causes are omitted, loom-stoppage tests will be a good reflection of running conditions in the roving and spinning rooms.

The number of ends that require piecing up is the greatest variable factor affecting the amount of work a roving or spinning-frame tender must do on a certain job. Labor required for creeling and other fixed tasks can be estimated closely when laying out job assignments. The amount of time spent piecing up depends directly on how well the work is running. If breakage is excessive, it will often compel the tender to neglect other assigned tasks that are necessary to keep frames in good operating condition.

Many mills neglect or ignore end breakage until running conditions get so bad that something must be done. Very often the first thing done is to blame the "poor" quality of cotton that is being delivered. When this hackneyed excuse has proved to be the wrong answer, attention is then given to the operating machinery.

A haphazard, spasmodic operating-test schedule has little value. There is no advantage in just knowing that the end breakage shown in the test is excessive. Something should be done immediately to remove the cause or causes and correct the condition. This follow-up is more important than the test itself.

Sound advice to any mill man is, "Don't start any intensive drive on end breakage or other operating tests unless you intend to include a complete follow-up plan to supplement the results shown by the tests." If the complete plan does include both of these important features applied systematically, the end result will fully justify the time and effort. Better running work will be assured through the spinning to the weaving.

RELATION TO EFFICIENCY. The question may be asked: "What relation has end breakage to efficiency, quality, or machinery maintenance?" When one roving end breaks and the roving frame is stopped to piece-up, the production of the entire frame is lost. It may only take one-half minute to piece up an end, but multiply this by the number of spindles per frame times the number of stops per day and the production loss can amount to a considerable percentage. Excessive end breakage increases the probability of poor piecings which can cause bad-running work on the following processes. The spinning frame is not stopped to piece up; but ends down, if excessive, will greatly increase the stick waste.

Every piecing made on any process is a potential cause of defects in the finished goods. Reduced piecings lessen the probability of thick, thin, hard, or dirty spots in the finished yarn.

A large part of excessive end breakage can be blamed on poor machinery maintenance or faulty adjustments somewhere along the processing line. It may be traced back to thin or thick places in the picker lap, tight tension on the card or drawing webs, condition or setting of rolls, frame tensions, or many other causes. End-breakage tests call attention to these faults and often indicate the remedy for their correction.

The end-breakage tests shown were made in two typical mills. They were made on conventional roving and spinning frames and were carried through to the weaving.

FORMS. On forms made up for making end-breakage tests, it is best to have the causes divided into groups or classes and then subdividing the groups to further closely define and locate the real reason for the breakage. Six group classes will cover all causes. These may be divided and listed as follows for the spinning tests. Similar forms can be made for the other processes.

Material

Bunches in roving
Roving broken back
Single
Double
Hard ends

Operation

Roving run out
Roving out of guide
Steel roll laps
Top roll laps
Broken by operative

Machine

Roving outside roll
Bad top roll
Dry top roll
Bad apron
Traveler off
Worn traveler
Slack tape
Tape off
Bad bobbins
Bad spindles
Bad skewers

Doffing

Starting up

Cleaning

Lint in trumpets
Flying lint
Top-clearer waste
Lint on travelers
Broken in cleaning

Unclassified

It is the great number of unclassified causes that reduces the value of many end-breakage tests. As it is difficult to determine the causes of many breaks, it is better to list these as unclassified, where the cause is unknown or uncer-

ROVING

	Slubbers		Inter		Fine	
	Mill No. 1	Mill No. 2	Mill No. 1	Mill No. 2	Mill No. 1	Mill No. 2
Ends down M spindle hr.	18.8	5.90	11.7	3.61	5.2	4.72
High	23.5	11.68	12.3	6.54	7.5	5.21
Low	11.6	4.72	10.5	2.36	3.8	4.69
Front roll rpm.	190	177	154	142	108	112
Front roll diameter	1¼	1¼	1¼	1¼	1¼	1⅛
Hank roving	0.52	0.55	1.40	1.30	4.40	4.60
Twist multiplier	1.09	1.15	1.22	1.25	1.42	1.59
Draft	4.07	4.60	5.8	4.73	6.5	6.35

SPINNING

	Warp Spinning		Filling	
	Mill No. 1	Mill No. 2	Mill No. 1	Mill No. 2
Ends down M spindle hr.	44.1	30.6	49.7	30.0
High	65.	34.1	53.7	35.1
Low	31	27.7	46.8	27.7
Front roll rpm.	107	128	106	107
Yarn number (actual)	31.39	30.41	40.57	39.72
Twist multiplier	4.75	4.45	4.11	4.15
Draft	14.1	14.	14.9	14.8
Single or double roving	D	D	D	D
Spindle speed	9600	9800	9600	9800
Breakage strength	54.7	53.5	35.8	35.7
Front roll diameter	1 1/16"	1"	1 1/16"	1"

SPOOLERS

	Mill No. 1	Mill No. 2
Percent tailings	16.5	10.7
Drum speed	1580	1750

WEAVING

(40-in. Looms)

	Mill No. 1	Mill No. 2
Stops per loom hour	.274	.28
Picks per minute	178	180
Construction	Plain	Plain
Total ends in warp	1140	688
Percent mechanical stops	15.7	8.72
Stops per M ends per hr.	.24	.41
Percent refills	6.8	8.95

WARPERS

	Mill No. 1	Mill No. 2
Number stops per beam	16.4	16.
Ends per beam	450	344
Yards per beam	30M	36M
Yards per minute	600	520

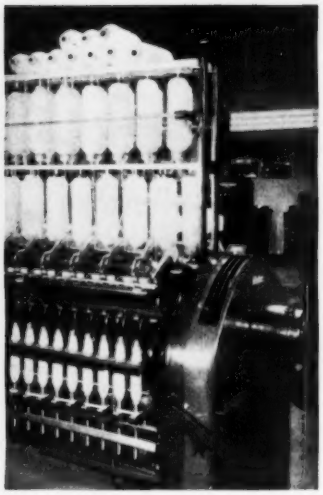
TO BE MOST EFFECTIVE, operating tests must follow through all operations from fiber to fabric.

tain, than to charge them to the wrong causes.

If possible, it is good policy to assign someone to the taking of end-breakage tests who is thoroughly familiar with the process being tested. The frame tender cannot always be depended upon to determine or give the real reason for an end break.

Four hours on one or more machines is generally considered sufficient for a reliable test. One rough method used in one mill for establishing approximate standards for breakage on spinning frames is to have the yarn number represent the permissible number of breaks per thousand spindle hours. For example: in the first test shown on warp sinning the actual yarn number is 31.39 and the end breakage is 31 per thousand spindle hours.

TEXTILE SECTION of the Basle Fair in Switzerland brought to light new developments in many types of textile machinery.



SPINNING FRAME by Reiter uses built-in springs to weight top rolls.

Time-Saving Improvements Shown in SWISS Machines

HIGHLIGHTS: *Spinning frame has quick-release springs for top rolls—Integrator calculates yarn variation—Drawing frame has six rolls—Two slivers delivered to one can—Electromagnet dobby now uses punched design paper.*

By BOYD FRANCE
McGraw-Hill World News

THE TWO OUTSTANDING developments in Swiss textile machines in the past year are an improved ring spinning machine by J. J. Rieter & Co., of Winterthur, and a fully automatic electronic integrator developed by Zellweger, of Uster, for use with its yarn-evenness tester. Both were shown at the annual Basle Fair.

The Rieter ring spinning machine resembles the standard Model 18 in many respects. It has a Pneumafil vacuum system to collect free lint and foreign matter from the yarn; and when a breakage occurs, the broken end is picked up and pneumatically conveyed to the collector. The new feature of the machine is the method of applying pressure to the top rolls. Pressure on the top rolls is no longer supported by the frame, nor is the machine encumbered by hanging weights. Pressure is supplied by springs located in the units that support the top rolls.

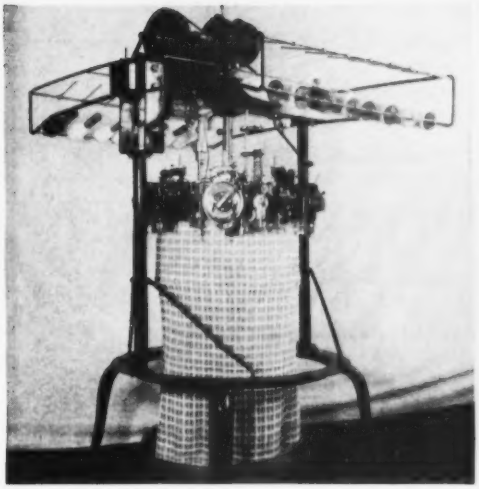
The ends of the rolls are free, which facilitates and speeds up cleaning and oiling. Wrap-arounds can be cleared easily while the machine is in operation. A snap handle releases pressure on the spring easily, and the top rolls can be lifted without stopping the machine. The top rolls contain simply designed ball bearings which Rieter claims will run for ten years without lubrication. Synthetic covers are used on the top rolls.

Zellweger developed its automatic electronic integrator to supplement its yarn-evenness tester. The tester measures and records on a graph the irregularities in the cross-sections of slivers, rovings, and yarns. The resulting curve shows up various causes of irregularities such as wrong settings of machines, impurities, peculiarities of raw materials, etc. It is also possible to compare the quality of two different yarns with the tester.

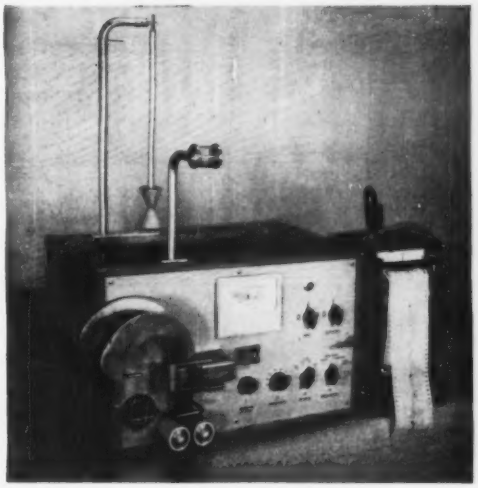
The irregularities in the graph must be expressed in percentages in order to set up quantitative standards of irregularity. Usually this is done either by obtaining the total area under the curve with a planimeter or by entirely mathematical means. Either way takes from 20 min. to 1 hr. to obtain the percentage of irregularity. Zellweger's electronic integrator was designed to eliminate this time-consuming process.

The integrator is placed between the measuring and the recording units of the tester. It determines the value of the average irregularities simultaneously with the recording of the graph and shows this percentage value directly on a meter. The integrator is easy to use, and it does not interfere in any way with the recording of the irregularities in the yarn on the graph.

OTHER MACHINES. The Kohler Co., of Wynau, Switzerland, has developed a new chrochetting machine. It is small, simply constructed, has a high output, and is quite versatile. Ribbons, straps, and laces using wool, cotton, rayon, silk, and rubber can be



CIRCULAR KNITTING MACHINE by Waga knits plain or plated goods, can be used for cut-presser designs.



EVENNESS TESTER has new feeding device. Integrator (not shown) can be coupled to it to calculate results.

turned out on the machine. Specially constructed models also can make upholstery, nets, cleaning cloths, cords, metal pot cleaners, curtain material, and fabrics like those made by raschel knitting machines, but with more varied designs.

The machine is made with four, five, six, and eight latch needles per centimeter; working widths are 35, 50, and 100 centimeters. The machines can be fitted with accessories such as a twin bobbin cage and an electric automatic stopping device which operates in case of breakage. The new design is reputed to be faster than any machine in its class to date.

Waga, of Schaffhouse, has built several knitting machines—a machine for the manufacture of single-yarn backings with or without a covering stitch and double backing with covering stitch, a machine for loop plush, a machine for making fish-net fabrics, and a machine for jersey fabrics.

Rieter also has developed a drawing frame which operates at very low draft designed to give an ususally even yarn. From 16 to 20 card slivers are fed to the drawing frame which has a six-roll drafting system, and a draft of ten is applied. The delivered sliver is coiled into a can. Then eight of these slivers combine to feed one head of the twin-sliver drawing frame, which likewise has a six-roll drafting system with a draft of eight. A divider splits these eight ends into two groups of four ends which pass through the drafting rolls.

These two slivers then are delivered simultaneously to a 12-in. can through two coiler deliverers. The can turns back and forth in a 180° arc so that the slivers do not tangle with one another when drawn out for the next operation.

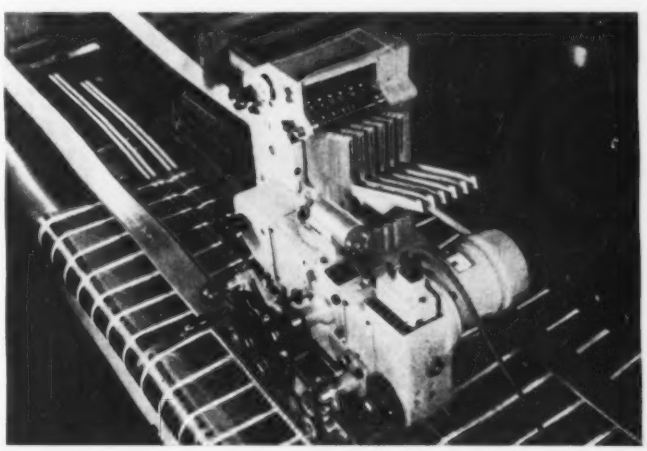
LOOMS. Adolphe Saurer Co., of Arbon, is making a group of six individual ribbon looms for widths up to 60 millimeters. The company also has an improved four-shuttle automatic loom. The loom sides are made of cast metal and contain gearing within them. Harnesses are powered from below, eliminating superstructure.

The loom has only one magazine, despite the fact that it is a four-box loom; but the four colors must be loaded into the magazine in a certain order.

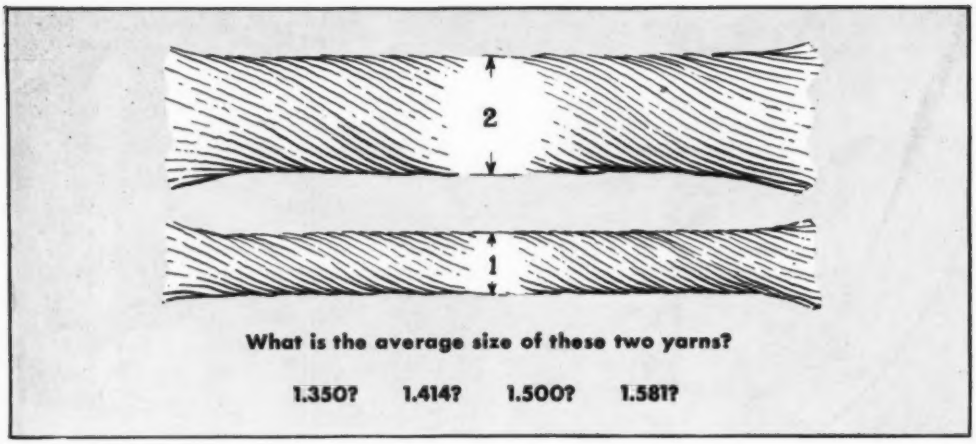
A two-shuttle automatic crepe loom has been perfected by Ruti, of Ruti (Zurich). Four- and six-shuttle models also are available. Ruti still features flat shuttles, to keep down the size of the boxes and sheds, even in the four- and six-shuttle models. Empty shuttles are automatically changed while the loom stops momentarily. Ruti also is building a jacquard loom in several different models.

Benninger Engineering Co., Ltd., of Uzwil, has built a shearing machine the speed of which can be regulated

(*Continued on page 109*)



DROP WIRES are postioned automatically by this "dropper-pinning" machine.



YARN VARIATION
Shown by Square-Root Index

HIGHLIGHTS: *Area of cross section gives truer picture of yarn size than diameter gives—Geometric mean, rather than average, should be applied to a range of yarn weights—Index of the range measures amount of error.*

By EDWARD H. JACKSON, JR.
Thomas Jackson & Son Co., Reading, Pa.

SPUN YARN IS INDEED a statistical phenomenon. A mass of fibers is fed through a series of machines; practically none of these machines have any control over the number of fibers passing through. The finished yarn, however, is surprisingly uniform.

In almost any sample of cloth, you can find yarn that is about twice the size of another yarn. Since yarn approaches a cylinder in construction, what you see is the diameter size. Remember the formula *pi* times radius squared [the formula for the area of the cross section of a yarn]. The heavier yarn is four times the size of the lighter. The yarn varied 1 to 4.

One part of the spinners' problem is by a single number to state the size of the yarn used. Naturally in the above case, the answer will lie between 1 and 4. If all the yarn is measured and then weighed, the size can be determined in a value of length per unit weight or the reciprocal, weight per unit length.

Using the values 1 and 4, we should in the same terms be able to state the size with satisfaction for all.

Averaging 1 and 4, we get 2½. But what we saw was the diameter varying by 1 and 2. Averaging 1 and 2, we get 1½, the square of which is 2¼. Now 2¼ is not 2½. It is admitted that these averages are close, but the difference is important because it indicates the fallacy of the arithmetical average when used with a ratio of length and weight.

MATHEMATICAL VARIATION. Starting all over, change 1 and 4 to the series 1, average, and 4. Now if the variations are imagined as growing progressively worse, while the average retains its numerical value, 1 would get smaller and approach 0 as the limit, while 4 would grow larger and approach infinity as the limit. An enlarged series derives, giving 0, 1, average, 4, infinity. Since average can also be 1 ÷ average, which is the reciprocal, the series can be restated as two series: 0, 1, average and 1 ÷ average, 1 ÷ 4, 1 ÷ infinity. Using the license of practicality, 1 ÷ infinity can be valued at 0.

Rearranging the series for easy comparison gives: 0, 1, average, and 0, 1 ÷ 4, 1 ÷ average.

Expanding the second part by the multiple 4 gives: 0, 4 ÷ 4, 4 ÷ average.

Since no numerical value was given to average, it cannot be argued for this case that the average does not equal 4 ÷ average. But the heavy variation has been jockeyed to the same numerical value from 0 that characterized the light spot.

Solving for a numerical value of average, without prejudice, to satisfy the condition evolved is as follows:

average = 4 ÷ average
average squared = 4
average = 2.

As before, the value 2 satisfies one requirement: it lies between 1 and 4.

LIGHT AND HEAVY SPOTS. One assumption has been made. It is that the light spot is in the same relative position between the average value and zero as the heavy spot is between the average value and infinity. A proof of an error (if an error exists) in this assumption would be very interesting.

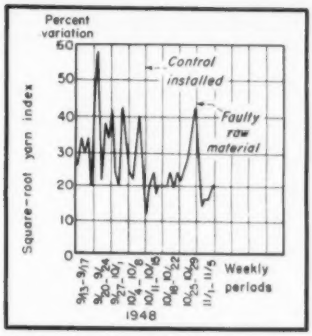
Starting all over again, the assumption stated mathematically is: Light is to average as 1 ÷ heavy is to 1 ÷ average.

Solving: Light ÷ average = (1 ÷ heavy) ÷ (1 ÷ average)

Average = square root of light x heavy.

This formula is not new; the statistician calls it the geometric mean.

The geometric mean for the diam-



***GRAPH** shows how control with square-root index reduced variation in sliver.*

Example of Square-Root Average and Index

(Sample consists of ten consecutive equal-length pieces of heavy sliver.)	204 (ft. per lb.) 194 190—Low 215 200 222 232 252 266—High 250
Total	2225

Arithmetic average, $2225 \div 10 = 222$

Square-root average, $\sqrt{190 \times 266} = 225$

Square-root index, $(266 \div \sqrt{190 \times 266}) - 1 \times 100\% = 18\%$.

eters 1 and 2 is the square root of (1 x 2), or 1.41, plus or minus. The squared average diameter is 1.41 x 1.41 = 2, plus or minus.

The geometric mean for the squares of the diameters 1 and 4 is the square root of (1 x 4) or 2. In this instance, consistency prevails.

If the light and heavy yarn had been weighed, they might have given 40,000 ft. per lb. and 10,000 ft. per lb. on samples 1 ft. in length. The average size seems to be 25,000 ft. per lb. But 1 ft. of 40,000-ft.-per-lb. yarn weighs 0.000,025 lb. and 1 ft. of 10,000-ft.-per-lb. yarn weighs 0.000,100 lb. The average weight for the two pieces is 0.000,0625 lb. or 16,000 ft. per lb. The true answer will certainly lie near the average of two differing averages, 25,000 ft. per lb. and 16,000 ft. per lb.

The geometric mean average remains consistent:

$\sqrt{40{,}000 \times 10{,}000} = 20{,}000$ ft. per lb.

$\sqrt{0.000{,}025 \times 0.000{,}100} = 0.000{,}050$ lb. per ft. or 20,000 ft. per lb.

GEOMETRIC MEAN. The importance of the geometric mean for averaging lies with the extremes, or the range, since the values at the greatest distance from the average do not respond properly when averaged arithmetically. It is the extremes of the variations that cause the spinner's breakdowns. It is the extremes of the variations that the spinner must minimize first.

Another part of the spinner's problem is by a single number to state the size of the variation of the yarn. There is little satisfaction in determining that 50% or 75% of the yarn is good. it is necessary to know how bad the unsatisfactory part is, or better yet how bad is the worst. It is the worst of the yarn that makes the yarn user's work difficult. If the yarn is all bad, he cannot use it in the first place.

One of the easiest methods to use the range as a measure of variation is to divide the highest value by the average of the range and subtract unity, which will give a numerical value for the distance from the average to the highest value. The resulting value is the yarn index.

Algebraically, it can be stated as: [High ÷ the square root of (High x Low)] − 1. This formula is identical with: square root of (High ÷ Low) − 1.

For the illustration used, the index is: [4 ÷ the square root of (4 x 1)] − 1 = 1.

If you need the percent formality, multiply the value derived by 100%. In this case, since the answer is 1, the percent would be 100. The distance from the average 2 to the low value 1 is 100% in exactly the same manner as the distance from the average 2 to the high value 4 is 100%.

YARN CHARACTER. Two measures of yarn characteristics are proposed here: (1) the geometric mean of the range as a measure of what the yarn is, and (2) the index of the range as a measure of the amount that the yarn is not what it was found to be. It seems more convenient to call these measures the square-root average and the square-root index.

These measures are simple and easily used in the mill. A slide rule is almost indispensable for speed. With a little ingenuity, an efficient system of control for size and variation can be built. It has been done, and the results exceeded expectations.

Those well versed in mathematics will recognize that the geometric mean in the instance of ratios and sympathetic measures will be the most accurate average; and also, a frequency-distribution graph, plotted on a properly modified scale having values and reciprocals on the respective sides of the central tendency, will not have aberrant skewness.

The square-root yarn index increases in usefulness as the magnitude of the index increases, particularly above 10%. In applying it to recording the uniformity of the production of yarn, the sample should be of a size that will have a variation in excess of 10%.

YARN SAMPLE. Assume that 1-ft. samples of a certain yarn from a spinner do so vary and that the variation is to be investigated or controlled. Each day a 1-ft. sample from each of ten bobbins would be tabulated. The index computed for the day's ten bobbins should then be plotted on graph paper, horizontally one day per vertical line. The accumulation of the record on the graph paper is the historical basis for evaluation of the index last secured.

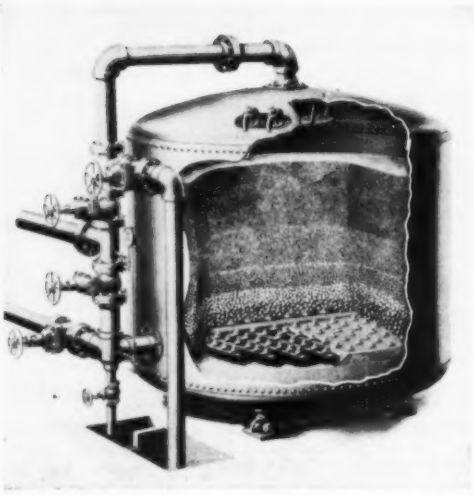
The tendency of the plottings to vary to and from zero will be a visual check on the variation of uniformity from day to day. The chart will indicate to what extent changes and adjustments to the operation are affecting the uniformity of the size of the sample being investigated.

The value of the square-root index is in the mastery which can be secured in the use of it without having to resort to the higher mathematics. For example, in recording the disagreement of a single sample from a standard, it follows that the series, similar to the foregoing (0, low, standard, high, infinity) evolves. Therefore, a sample that is low in reference to the standard is [(standard ÷ low) − 1] 100% low, and a sample that is high inreference to the standard is [(high ÷ standard) − 1] 100% high.

Why? Because as before: Light is to standard as 1 ÷ heavy is to 1 ÷ standard.

Or, simplified: Standard ÷ light is proportional to heavy ÷ standard.

More applications of the fundamental idea can be found, as well as numerous applications of the square-root yarn index.



TWO VERTICAL FILTERS, 72 in. in diameter, receive water from the lake. Sand and gravel remove physical impurities. The water is then pumped into a storage basin.

Boiler-Water Control Report

Source of sample		Boiler No.						
Alkalinity (methyl orange)		17.2	16.6	14.2	17.5	16.4	16.2	15.9
Chloride		3.7	3.5	2.6	3.4	3.2	3.0	2.6
Phosphate		55.0	60.0	60.0	60.0	60.0	60.0	60.0
Sulphite		4.5	5.7	2.0	4.5	4.1	4.0	3.5
Manual blowdown		3	3	3	3	3	3	
Continuous blowdown		✓	✓	✓	✓	✓	✓	
Softener operation	lb. K Jell	5	5	5	5	5	5	5
	lb. Adjunct	5	5	5	5	5	5	5
	lb. RemOx	1½	1½	1½	1½	1½	1½	1½
Fuel burned (tons)		3.4	13.3	11.9	15.3	14.2	14.5	17.2

CONDITIONED WATER
Saves Fuel, Improves Quality

HIGHLIGHTS: *Filtering and softening water helps mill standardize finishing—Ten tons of coal saved a day—Fewer chemicals needed—Close control of water necessary.*

By E. DALTON WHITE
McGraw-Hill Atlanta Bureau

Water Analysis

Sample	Lake	City	Soft (Sod. Zeo.)	Feed	Blr. 2	Cond.
Analysis No.	H-2683	2684	2685	2686	2687	2688
Turbidity as SiO_2, (p.p.m.)	Trace	Trace	Trace	Trace	Present	Trace
Ammonia as N						0.25
Carbon dioxide as CO_2						0.0
Total hardness as $CaCO_3$	116	74	10	16	0	14
Phenolphthalein alkalinity as $CaCO_3$	0	0	18	12	656	8
Methyl orange alkalinity as $CaCO_3$	138	68	128	84	816	28
Sulfate as SO_4	24	18	10	8	256	*
Chloride as Cl	8.0	6.0	10.0	5.0	52	3.0
Phosphate as PO_4					175	
pH	7.5	7.3	8.9	8.7	12.1	8.9
Specific conductance, micromhos						41.0
Specific conductance, micromhos (corrected)						39.1

*Insufficient sample.

MANY ADVANTAGES have been gained by Richmond Hosiery Mills, Rossville, Ga., through its system of water treatment and control. Laboratory tests and research are continuing procedures that are given careful consideration in the maintenance of product quality.

Since the installation of the water-treatment system and other improvements, substantial savings have been effected, A. L. McCall, superintendent, reported. There has been a reduction in boiler-fuel requirements, chemicals, and detergents.

The water source for the mill is McFarland Lake, a private lake on which the company has water rights. Rainfall affects the turbidity and chemical content of the water, and frequent tests of the water must be made to gage operations of the treatment system.

The water from the lake is pumped through a 4-in. line to the booster pump, then through a 3-in. line to two 72-in. sand-and-gravel filter tanks. Alum is added at a point between the pump and the filters at the rate of 20 lb. per 300,000 gal. The pressure filters are backwashed each 24 hr., the process requiring about an hour.

Backwashing is done one filter at a time so that one is always in service.

STORAGE BASIN. From the filters, the water is pumped to a 45x90x8-ft. plant storage basin located between the spinning mill and the dyehouse. This basin has brick walls faced with concrete.

Water from the storage basin is pumped to two softener tanks, one of 60,000-gal. capacity and one of 70,000-gal. capacity. These tanks are backwashed alternately at the end of a capacity run.

Both the filters and the softeners are housed in a building adjacent to the dyehouse.

Reports are made daily for boiler-water control and are sent to a specialist on water control for analysis and recommendations. This report is in addition to plant analysis.

Prior to improvements to boilers and water treatment, coal consumption was about 22 tons per day. As Mr. McCall pointed out, it was a struggle to carry the load with both boilers. Tube deposit was rapid and boiler efficiency was low.

NEW SYSTEM. With the new water system, the amount of chemicals used in the boilers has dropped; and now only a bare minimum is used, primarily as insurance in case hardness should develop between water tests.

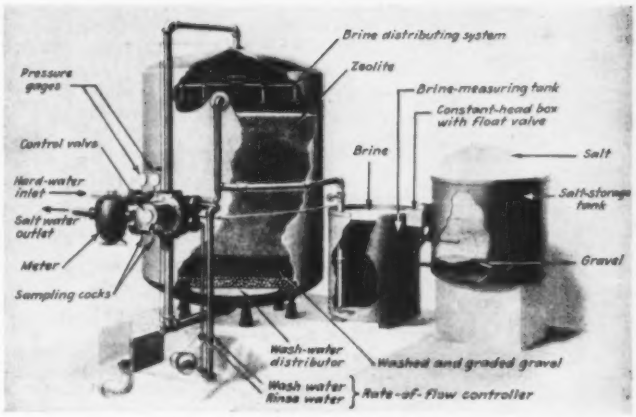
The big saving has been in reduction in fuel requirements for the boilers. From about 22 tons a day, with both boilers in operation, the plant now gets more steam from one boiler using an average of about 11 to 12 tons of coal per day.

Inspection of boilers and tubes shows that new tubes are clean and older ones seem to be improving, as the small deposit of old scale is gradually disappearing. Hardness in the water has been reduced to six parts per million in the feed water and to zero in the boilers.

An alarm system on the meter at the softener sounds when it is time for recharge. The alarm control is set to permit 40,000 gal. to pass through the Zeolite tank.

Both city and lake water can be run through the system. The city water varies from season to season, depending on the rainfall.

The water now used has resulted in an improvement in dyeing operations and the elimination of blotches and streaks that develop from the presence of magnesium and calcium. With standardized water conditions, the mill has been able to maintain uniform dye formulas and has eliminated lumpy dye and the necessity for redyeing.



TWO SOFTENER TANKS, of 60,000- and 70,000-gal. capacity, receive water from the storage basin. Tanks are backwashed frequently and recharged after each 40,000 gal.

Schedule for Control Treatment

Limits	Milliliters	Parts per million	Size sample (ml.)
Phosphate (PO_4)	.....	30 — 60	.....
Alkalinity (P)	8.0 — 15.0	160 — 300	50
Chloride	10.0 — 15.0	200 — 300	50
Sulphite	4.0 — 8.0	20 — 40	100

Control

1. Feed reactive colloid (K-Gel) and adjunct always in the ratio of one part colloid to three parts adjunct.
2. Vary feed of colloid and adjunct in accordance with the phospate (PO_4) tests, increasing feed of chemical treatment when phosphates are less than 30 p.p.m. and decreasing feed of chemical treatment when the phospates are greater than 60 p.p.m.
3. With favorable phosphate values, alkalinities will normally develop above 160 p.p.m. (8.0 ml.). If alkalinities exceed 300 p.p.m. (15.0 ml.), temporarily increase blow down regardless of chloride concentrations.
4. If chloride concentrations exceed 15.0 ml. (300 p.p.m.), increase blow down. Blow down may be decreased when the chlorides are less than 10.0 ml. (200 p.p.m.).
5. Increase feed of sodium sulphite (RemOx) whenever sulphite residuals are less than 4.0 ml. (20 p.p.m.). A decrease of the feed of sulphite should be made when sulphite residuals exceed 8.0 ml. (40 p.p.m.).

Swiss Textile Show

(Continued from page 105)

within a 1:12 ratio. It also can be switched on and off and reversed with a pedal. This leaves the operator's hands free.

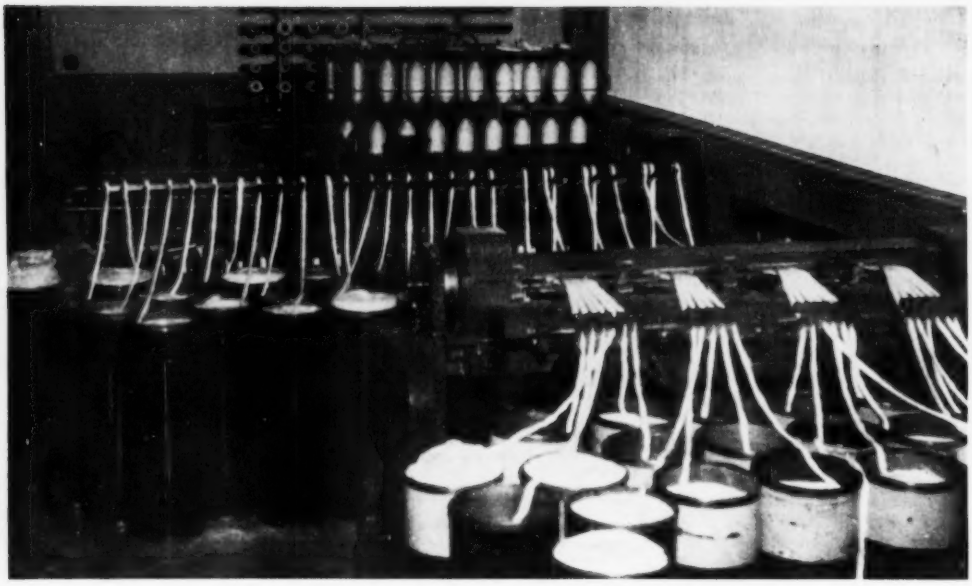
ELECTRIC DOBBY. An electromagnetically controlled dobby which uses punched design paper has been developed by the Sample Weaving Machine Co., of Liestal.

In the new dobby, the shafts are controlled by a direct-contact system operating the magnetic coils. The holes punched in the design paper let the feelers through to make the necessary contact. This means a contact for every vertical line on the paper. In the case of a 16-shaft dobby, for example, 32 vertical lines will be printed on the design paper and the dobby will need 32 contacts. Of these, 16 will operate with the upper and 16 with the lower knife.

The new system takes full advantage of the fact that the double-lift dobby has two knives working independently. All the hooks on the lower knife are controlled from one switchboard, and those on the upper knife are controlled from a second switchboard.

In cutting the pattern paper, one vertical line of the design is divided into two control lines on the paper. These control lines operate one shaft during weaving so that the vertical line on the design paper appears as one warp end.

The new electromagnetic system, however, makes it possible to combine any two lines on the design paper and set up a completely new lifting order resulting in a different weave.



PILOT CONTROL of samples and tests is obtained in the new pilot room.

PILOT CONTROL Features Modernization

HIGHLIGHTS: *New pilot room for samples and tests, laboratory, and cafeteria completed by Rocky Mount Mills—Shirley analyzer separates lint for mill tests.*

By JOHN M. GREGORY

MODERNIZATION of Rocky Mount Mills, Rocky Mount, N. C., has now reached all departments. It includes remodeled buildings for pilot room, laboratory, offices, and cafeteria; new production equipment; and Marshall Park, a new baseball field donated

LABORATORY EQUIPMENT *includes lap, sliver, roving, and yarn testers.*

BALANCED MEALS *for employees is the objective of this new $25,000 cafeteria.*

to the city and named after the late T. E. Marshall, for many years secretary of the company.

The pilot room is approximately 21x60 ft., with a dark-green 5-ft. dado around walls that are in turn covered with serrated plywood painted light cream. Six fluorescent lights extend in two rows overhead.

Used for samples and tests, the pilot room contains a Whitin 36-spindle twister; a Whitin 36-spindle spinning frame; a Whitin inter-draft slubber; a Whitin drawing frame, four delivery; and a H & B American Machine Co. card. The twister and spinning frame are small scale. Each machine has an individual drive, powered by General Motors and Worthington motors. Air is kept at constant temperature and humidity, 70° F. and 65% r.h.

LABORATORY. The air-conditioned laboratory is under direction of production manager W. L. Jones, assisted by Wilson Malloy, a graduate of the School of Textiles, North Carolina State College. The laboratory has hardwood floors venetian blinds, overhead fluorescent lights, tiled toilet, and washroom. The 44x58-ft. white-painted building, with porch extending along one side, also provides a control room and production manager's office.

Among important new additions to laboratory equipment are a Shirley analyzer, Scott yarn-strength tester, Suter precision strength testers, direct-yarn quadrant, single-strand strength and elasticity testers, precision twist tester, Saco-Lowell lap tester (in picker room), Brabender moisture tester, sliver tester, automatic roving tester, sling psychrometer, speed indicators.

The Shirley analyzer is reported by the mill to be the nearest approach to perfect separation of lint and foreign matter that has yet been developed. It separates trash from lint with a minimum of fiber loss. Developed by the Shirley Institute, Manchester, England, the machine provides an effective means for quantative and qualitative analyses of foreign matter in cotton lint.

The machine consists of a feed table, feed roll, lickerin, baffles, air blast, and condenser. Cotton is fed slowly to the lickerin. As the cotton is broken, the air blast carries the lint around the bottom of the flow plate and up to the condenser. Trash and heavy particles drop into the waste chamber. Not only raw cotton, but also various waste products are analyzed. Clean lint is deposited in the lint chamber, motes and trash in the waste chamber. Motes and trash are not separated. Since the machine is strictly a laboratory device, its main function is to separate lint from trash in small samples; but its use and possibilities are numerous.

LITTLE COTTON FIBER is lost when Wilson Malloy makes a lint test on the Shirley analyzer at new Rocky Mount Mill laboratory.

COTTON STORAGE. Warehouses consists of three stalls 48x189, 41x189, and 45x189 ft., a waste house 41x114 ft., and the opener room 66x75 ft. Several years' experience with concrete floor laid on 6-in. crushed stone showed no spoilage of cotton; and this type of floor will be laid in all warehouses in place of present wooden floors. Two new Lewis-Shepard cotton stackers handle the cotton bales.

A new Abington vacuum system has been installed in the waste house. Waste is collected throughout the mill, brought by air pipe operated by an Allen-Billmyer centrifugal pump, and baled by a new Lummus press for shipping. The system is operated by remote control from every place in the mill where waste originates. A floor-level American Kron scale is used for weighing.

In the opener room, bright with new white paint, are two lines of Whitin opening equipment, each line having four blending feeders, a cage section, two Spirawhirls in tandem, and a downstroke cleaner. These lines converge beyond the downstroke cleaners whence the cotton is conveyed across the road by vacuum to the picker room.

Eight Whitin one-process pickers are fed by rake distributors and equipped with a return-air condenser. The Abington vacuum-stripping system is employed in the card room. There are 324 deliveries of new Whitin drawing frames equipped with common rolls. Among 39 roving frames, 32 are new Whitin inter-drafts, and seven have been equipped with the Whitin inter-draft system.

SPINNING. A 70x130-ft. annex has been built to the 79x526-ft. spinning room. Combined, they contain 160 spinning frames with a total of 39,000 spindles. All are either new or equipped with Casablancas long-draft. Parks-Cramer overhead cleaners have been installed throughout.

A Matthews conveyor, approximately 400 ft. long, conveys full and empty bobbins to and from the Abbott winding room. This room has a Bahnson air-changing system.

In one half the Abbott winding room, there are 11 automatic winders and Parks-Cramer overhead cleaners. The other half has 12 new Model-E and 12 new Model-L Whitin twisters. This room is humidified with American Moistening Co. equipment, recently installed.

The main twisting room has 82 twisters, the majority new Whitin; and American Moistening Co. humidifying equipment. Ducts bring in fresh air from outside, and every other window has an ILG exhaust fan.

The finishing room features Universal, Roto-Coner, and Foster 102 winders; Parks-Cramer overhead cleaners; reeling; and ball, beam, and snake warping.

Rocky Mount Mills is fully equipped to spin most sizes of single yarns from 4s to 30s, and to twist yarns up to 8-ply. The manufacturing areas are lighted throughout by fluorescent lights with an intensity of approximately 30 to 40 foot-candles.

SHOP. The machine shop is under direction of A. D. Abernethy, superintendant of maintenance. Now equipped to do all maintenance work of the plant, it has a 24-in. lathe, automatic lathes, grinders, a 4-in. radial drill, and 2- and 8-ft. planers. Mr. Abernethy is planning a complete centralized system of lubrication that at present is done by each department.

The upper floor of the personnel director's building is being remodeled for additional space for John Scott, director. A part is used for a laboratory for F. M. Morris, industrial engineer, in which his new control boards are built.

The rear of the first floor of this building is occupied by the clinic, in

(*Continued on page 147*)

Improved Equipment Offered At WET-PROCESS SHOW

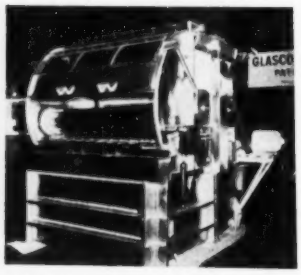
HIGHLIGHTS: *Dyeing machinery features smaller space requirements and faster loading and unloading—Package and fabric conditioners give more uniform conditioning control—Improved accessories look toward faster production schedules.*

NEW EQUIPMENT DESIGNED to speed up dyeing and finishing operations, most of it shown for the first time, featured the first Biennial Wet-Processing Equipment and Supplies Exposition at the 71st Regiment Armory in New York recently. Most exhibitors reported a keen technical interest in their cost-saving equipment among those attending the show.

Descriptions of the new equipment shown are given below. For further information about any machine, use the card on page C of the Reader-Service Dept., which begins on page 181. Write on the card the letter and number given at the end of the particular description that interests you.

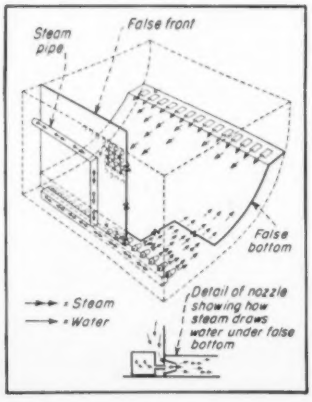
Dyeing Machinery

▶ Stainless-steel dye becks inclosed with a tight-fitting hood were shown by Glasco Equipment Corp. The hood is designed to save space and to minimize dripping. An automatic steam vent, which opens at the same time the door opens, prevents steam from blasting on the operator. A synchronized reel drive is said to feed fabric to the oval reel without puller drag between reels. A Tite-Grip reel is designed to grip fabric firmly and to avoid friction damages. An overflow wash system removes surface scum from the middle and sides of the tub. An automatic color-distribution system uniformly distributes color poured in at one point. (W-1)



SPACE SAVING and minimized dripping are two advantages of the covered dye beck. (W-1)

▶ A new jet-circulation system and a herringbone-hump reel [T. W. Apr., '49, p. 146] were featured in a piece-dye kettle shown by James Hunter Machine Co. In this system, the majority of the heating steam is fed into the kettle through a series of nozzles. Each nozzle projects into a cone arrangement in the false front. The steam jet acts as a jet pump and draws water along with it into the cone, and from there into a passageway formed by the bottom of the kettle and the false bottom. This false bottom extends across the entire width of the kettle and curved back, to a point just below the lowest level reached by the dye liquor during the cycle. In this way, steam and water ejected from the cone and nozzle at the front of the kettle are thoroughly mixed and blended by the time they reach the back end of the false-bottom passage. From this point, the liquor flows through the kettle, maintaining a uniform circulation and even temperature.

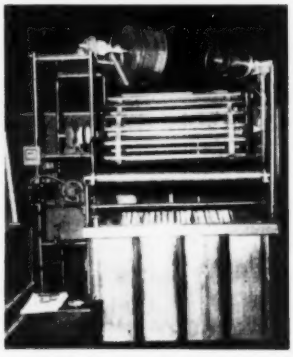


A JET CIRCULATION system for piece-dye kettles was shown by James Hunter Machine Co. The circulation system is said to keep temperatures uniform, speed rinsing. (W-2)

An additional advantage of the kettle is that the dye, as it is added in the front of the kettle, is carried by the steam jets under the false bottom and is completely blended with the hot water before it strikes the cloth, eliminating the possibility of the concentrated dye striking any one particular part of the fabric. In the same manner, when goods are being rinsed and cold water is being added, it has an opportunity to temper before striking the cloth, and the flow or circulation is also in the direction of the cloth. The objectionable noise and harmful vibration of "water hammer" in the conventional dye kettle is also said to be eliminated by the jet circulation. (W-2)

▶ A mechanism for attachment to dye becks for tensionless and continuous dyeing was shown by Ten-Co Machine Co. The device has been in operation for five years in a dyeing plant, the manufacturer states. The mechanism, consisting of a drive and several attachments, can be mounted on equipment now in place. Advantages claimed are:

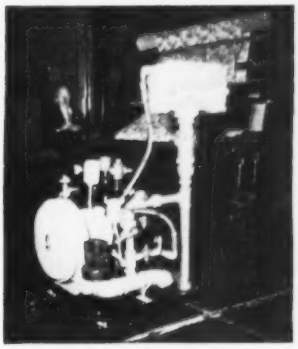
1. Even yardage in each strand of fabric produces even shades.
2. Dye beck is self-loading and unloading. Manual lifting of wet pieces is eliminated.
3. An automatic control stops the machine in case of tangles.
4. Variable-speed hydraulic drive with no chains or sprockets can operate at speeds up to 60 rpm.
5. Dye beck can be loaded at same time it is unloading.
6. All types of fabrics can be run in the dye beck.
7. Faster loading and unloading increases production. (W-3)



CONTINUOUS, TENSIONLESS dyeing in dye becks is said to be possible with this new attachment. (W-3)

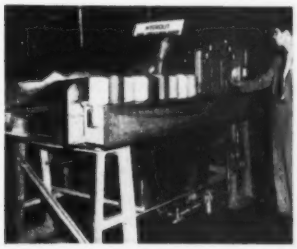
Finishing Equipment

▶An adjustable process-heating gas-burning infrared generating system was shown by Cadgene Machine Co. Ignited by blast pilots which, like the system, utilize a mixture of air and gas with or without electric ignition, the generator can be made fully automatic to maintain a temperature to within 5° F. when used in an enclosure such as an oven. Burners may be mounted and rotated to suit various conditions. The system incorporates Factory Mutual-approved accessories and safeguards. (W-4)



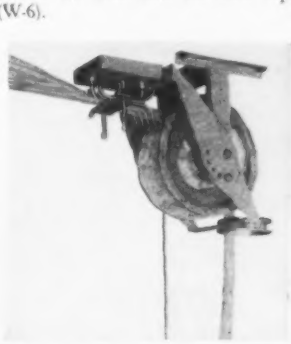
***NEW INFRARED SYSTEM** generates radiant heat, hot air, and convected heat by burning a premixture of air and gas for flameless, 100% combustion. (W-4)*

▶A new Hygrolift yarn-conditioning machine for conditioning of yarn on cones or dye packages was shown by Kearny Mfg. Co., Inc. The machine has a brass-rod conveyor apron which carries the yarn past 17 spray nozzles located on all sides of the package. Valves control the flow of conditioning liquid through each set of nozzles. (W-5)



***CONTROL VALVES** can vary the flow of conditioning fluid through the 17 nozzles of this new yarn conditioner. (W-5)*

▶A display of a complete cloth-opening range by Mount Hope Machinery Co. featured an electric detwister switch. The patented switch is used with the Mount Hope V-type overhead sheave. Twist in a rope of cloth being pulled from a truck is forced back to the detwister switch by the Mount Hope guider heads. The twist in the cloth rope turns the detwister switch one way or the other. The turning of the switch cause a detwister table carrying the cloth truck to turn in such a direction as to remove the twist from the cloth rope. (W-6).



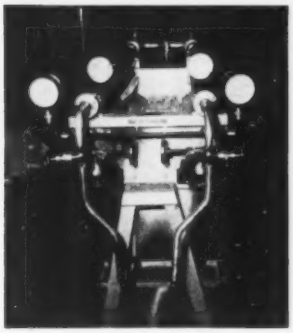
***DETWISTER SWITCH** may be used on horizontal or vertical rope. (W-6)*

▶A new Mist-Spray dampener designed to dampen fabrics without spots or streaks was shown by B. F. Perkins & Son, Inc. Adjustable sprays are designed to produce moisture varying from a fine spray to the point of saturation. As little as 1% moisture can be added when running at speeds as low as 20 yd. per min., or 10 to 15% can be added when running at speeds as high as 250 yd. per min. Because the cloth travels in an upward direction between sprays, even dampening is said to be assured. Sprays operate in a downward direction, preventing the formation of objectionable drops of moisture on the cloth. All possibility of drops falling on the cloth is said to be eliminated, as well as streakiness. Spray nozzles are completely inclosed, a feature which is said to eliminate air currents and insure even distribution of moisture over the fabric. Sprays are adjustable to any width of cloth. Mist-Spray Dampeners are designed in widths to requirements, from 36 in. up to 250 in. or higher.

When it is desired to dampen only one side of the cloth, one spray can be cut off. For woolens and worsteds, a one-side dampener is available of slightly different design. Water passes through an efficient triple filter in the reservoir tank. Surplus liquid falls into the main tank and is filtered and recirculated to avoid any wastage.

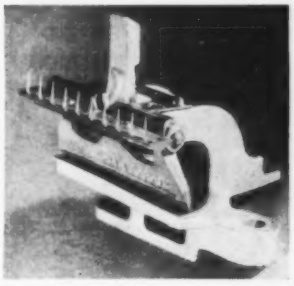
Sprays cut off instantaneously when the machine is stopped. Full spray is available without readjustment when the machine is restarted.

The dampener is said to be easy to keep clean. All parts coming into contact with the water, such as cut-offs, main tank, and reservoir, are made of stainless steel; so there is no risk of staining the cloth. (W-7)



***ADJUSTABLE SPRAYS** in this new cloth dampener moisten fabrics to various degrees from 1% at 20 yd. per min. to 15% at 250 yd. per min. (W-7)*

▶A new swing tenter has been developed by Winsor & Jerauld Mfg. Co., Inc. The new swing mechanism is designed to provide a uniform oscillating motion. Surging and vibration are said to be eliminated. Drive mechanism is completely inclosed and runs in an oil bath. (W-8)



***CLIP AND PIN** combination for tentering permits shrinkage control on clip frames.*

Other Mechanisms

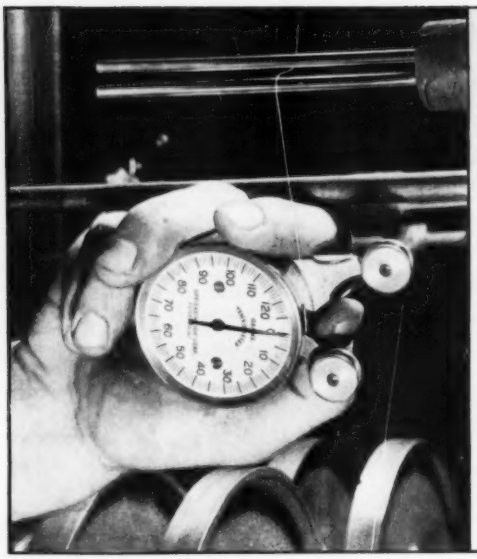
▶A new model clip-and-pin for tentering has been designed by Cadgene Machine Co. A clip body with drilled lugs to hold a pin plate, it allows for the handling of any type of fabric and permits shrinkage control on present clip frames. CLIPIN comes in two designs, and will be licensed out to clip manufacturers. (W-9)

▶An improved electrolytic conductivity cell and recorder for use in maintaining solution strengths in carbonizing and mer-

(Continued on page 226)

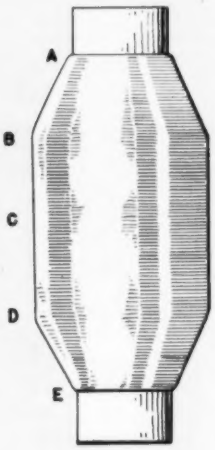
***ANNULAR PLATINUM** electrodes and plastic replace glass in this new conductivity cell for solution control in carbonizing and mercerizing. (W-10)*

Nylon Pirn TENSION TEST



TENSOMETER reveals variation in tension on nylon yarn as it passes over five focal points on pirn while being redrawn upward.

POINTS OF TENSION on pirn are indicated at A, B, C, D, and E. Tensometer readings were obtained at these points.



HIGHLIGHTS: *Tensometer tests show heaviest drag and widest tension variances occur at bottom-most point of pirn—Tension and variance become less as pirn runs down—40-den. hosiery yarn used in test—Results do not necessarily apply to 15-den. yarn.*

By J. A. STEIN and D. L. JUDSON

Mojud Hosiery Co., Greensboro, N. C.

MOJUD HOSIERY CO., Greensboro, N. C., recently ran tensometer tests on 40-den. hosiery yarn in an effort to discover at which points on the nylon pirn there is the greatest tension during processing, and the greatest variation in tension. Among the conclusions drawn from the 2,250 tensometer readings from 115 pirns in a regular production run were (1) that yarn tension does vary considerably as yarn runs off the pirn, (2) that the bottom-most point of the pirn exerts the most drag and suffers from the highest variation in tension, and (3) that the smaller the diameter of the pirn, the less tension in redrawing.

TIME	AVERAGE TENSION (grams)				
	A	B	C	D	E
Start	2.16	2.38	2.61	3.27	6.59
1–1½ hr	1.85	1.99	2.26	2.87	6.12
2–2½ hr	1.56	1.56	1.64	1.96	5.93
3–3½ hr	1.46	1.36	1.54	1.91	4.70
4½ and over	1.30	1.24	1.35	1.57	3.66

TENSION READINGS *arranged by both points and time indicate that at all points tension becomes less as more and more yarn is drawn from the pirn.*

TIME	VARIANCE (grams)				
	A	B	C	D	E
Start	5.96	7.48	8.68	13.43	49.41
1–1½ hr	4.52	4.91	6.24	10.09	43.91
2–2½ hr	2.98	2.89	3.23	4.76	40.89
3–3½ hr	2.87	2.20	2.90	4.49	26.45
4½ and over	1.94	1.73	2.10	3.02	18.67

VARIANCES IN TENSION *arranged by both points and time indicate that as the pirn winds down and becomes more cylindrical, variation is not so marked.*

POINT	AVERAGE TENSION (grams)	VARIANCE (grams)
A	1.666	3.654
B	1.706	3.842
C	1.880	4.630
D	2.316	7.158
E	5.400	35.867

AVERAGE TENSION VALUES *show varying amounts of drag, with Point E the worst offender. This table accounts for the entire running time of the pirn, as well as the variation in tension.*

TIME	AVERAGE TENSION (grams)	VARIANCE (grams)
Start	3.159	16.99
1–1½ hr.	2.776	13.93
2–2½ hr.	2.226	10.95
3–3½ hr.	1.973	7.78
4½ and over	1.660	5.49

FIVE-POINT AVERAGE TENSIONS *at various running times show that tension lessens with the passing of time, as the pirn becomes more cylindrical.*

Reveals Wide Variance in Drag

PROBLEM:

1. What happens to nylon-yarn tension as the yarn passes over various points on the pirn?

2. What happens to over-all average tension as the pirn winds down?

BACKGROUND OF TEST:

1. 40-den. hosiery yarn was tested, so that it could be seen easily.

2. 115 pirns were observed.

3. 2,250 readings were taken.

4. Tests were made during regular production run.

5. Yarn was redrawn at 285 yd. per min.

6. 1.1-lb. pirn of 40/13/½ z type 200 DuPont nylon, manufactured at Seaford, Del.

7. A standard Tensometer was used.

TEST PROCEDURE:

1. Tensometer readings were taken between the pirn and frame tension rods (two parallel chrome-steel rods) to reduce the value of the readings.

2. Tension was measured as the yarn wound past each of the five points A, B, C, D, and E on the pirn.

3. Note was made that the yarn traverse on the pirn ran from points A to D for a while, and then from B to E, laying yarn at A and E only half as often as at the other points.

EVALUATION OF TEST:

1. Yarn tension varies considerably as yarn runs off pirn.

2. The bottom-most point of pirn has the heaviest drag.

3. The bottom-most point of pirn has the widest variation in readings.

4. Tension and variation lessen as pirn gets smaller and more cylindrical.

5. Results for 40-den. yarn do not necessarily apply to 15-den. yarn.

Supervisors Called FOREMEN Are Usually Mill Overseers

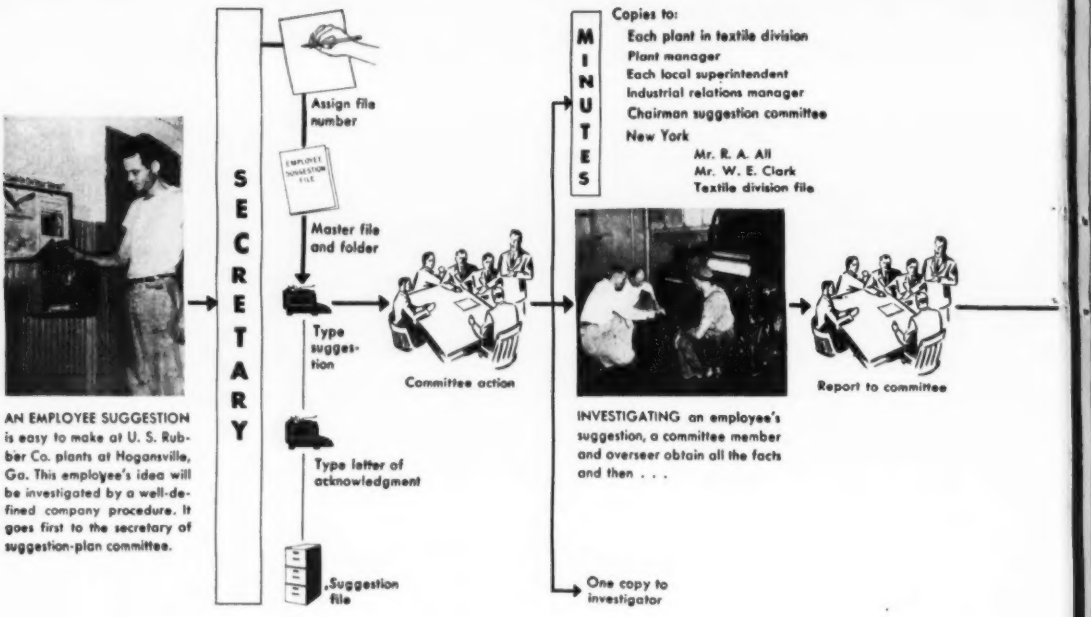
HIGHLIGHTS: *Seven out of ten mills answering recent questionnaire consider "foremen" as overseeers—Use of term for second hands and section hands apparently not very general.*

1. Questionnaires sent out			377
Answers received			57
Percent answering			15%
2. "Do you call any employees in your mill FOREMAN?"			
Yes			40
No			17
Percent "Yes"			70%
Percent "No"			30%
3. "If yes, what do you consider them the equivalent of?"			
Overseers	28	70%	7 out of 10
Assistant overseers	5	12½%	1 out of 8
Second hands	5	12½%	1 out of 8
Section hands	2	5%	1 out of 20

SEVEN OUT OF TEN MILLS answering a recent TEXTILE WORLD questionnaire said they considered a foreman the equivalent of a department overseer. One out of eight labeled a foreman as an assistant overseer. Another one out of eight uses the term for its second hands; while only one out of 20 applies the name to its section hands.

The title "foreman" is beginning to be used in all types of textile mills. Until interest in it was aroused by postwar labor litigation, the title was a vague, general term in the industry, not applicable to a single position alone.

As a result of the increased interest in the term, TEXTILE WORLD sent out its questionnaire to find out how the foreman's specific job was being defined by mill management in all branches of the industry. Although the percentage of answers received was only 15% of the questionnaires mailed, the indications are that a foreman is an overseer. For this reason, the questionnaire results are believed worthy of recognition by the industry.



AN EMPLOYEE SUGGESTION is easy to make at U. S. Rubber Co. plants at Hogansville, Ga. This employee's idea will be investigated by a well-defined company procedure. It goes first to the secretary of suggestion-plan committee.

INVESTIGATING an employee's suggestion, a committee member and overseer obtain all the facts and then . . .

Employees Cash In On Textile SUGGESTIONS

HIGHLIGHTS: *Employees suggestions saved several thousand dollars for United States Rubber Co. Hogansville, Ga., plants during 1948—Suggestion system carefully drawn up by company policy—Maximum award locally is $300 for one suggestion.*

By H. R. MOORE

Supervisor of Standards, The United States Rubber Co., Hogansville, Ga.

EMPLOYEE SUGGESTIONS at the United States Rubber Co. plants at Hogansville, Ga., netted employees over $1,000 in special awards during 1948. A total of 105 suggestions were received by the company's suggestion-plan committee. Twenty-five suggestions were accepted by the committee, put into effect, and paid for according to a well-established policy of calculating the awards. Savings to the company amounted to several thousand dollars.

The suggestions included traverse-rail stops on spinning frames, special openings in Buckley feed aprons to facilitate choke removals, an unusual adapter made by a spinning employee to straighten paper tubes on the Dayco cot assembler, safety devices on pickers, special mechanical improvements in the Asbeston plant, and other ideas.

The suggestion system at the Stark, Reid, and Asbeston plants was set up in the mutual interest of the company and the employees. It provides a convenient means by which employees express their ideas and suggestions to improve mill operation. It promotes friendly relations through the mills, and encourages individual initiative.

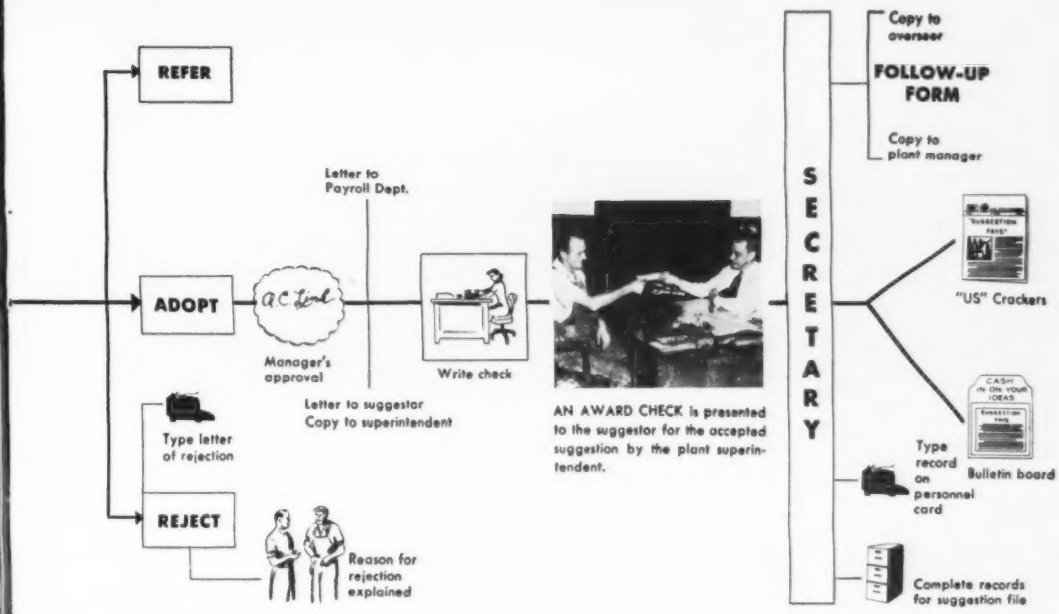
The mechanics of the system are outlined in the above chart and pictures which tell what happens to a suggestion after it is placed in the suggestion box by the employee.

Briefly, the suggestion goes to the secretary of the committee, Miss Irene Phillips. Only she knows the identity of the suggestor until the idea has been accepted or rejected. She types the suggestion, acknowledges its receipt, thanks the suggestor by letter, assigns a file number to the typewritten suggestion, and brings it to the attention of the suggestion-plan committee at its next bimonthly meeting.

The committee is appointed by the local manager of the mills, A. C. Link, and includes:

H. R. Moore, supervisor of standards, chairman; D. C. Trussell, assistant master mechanic; E. A. Norris, plant accountant; D. T. Austin, superintendent of Asbeston plant; J .W. Oliver, overseer of spooling, twisting, and weaving, Reid Mill; and J. L. Guy, director of safety and training.

The committee appoints one member to investigate the suggestion, and his findings are discussed by the committee and reported to the suggestor. If the suggestion is feasible and practical, it is referred to the proper mill official (who already has assisted in the investigation) to be put into effect. The payroll department is au-



thorized to pay for the idea, and the check is presented to the suggestor by his superintendent. All wage employees and supervisors are eligible to submit suggestions for awards. However, supervisors' suggestions are required by company policy to represent thinking beyond the ordinary scope of their responsibility. It is expected that a supervisor's idea will be of major importance.

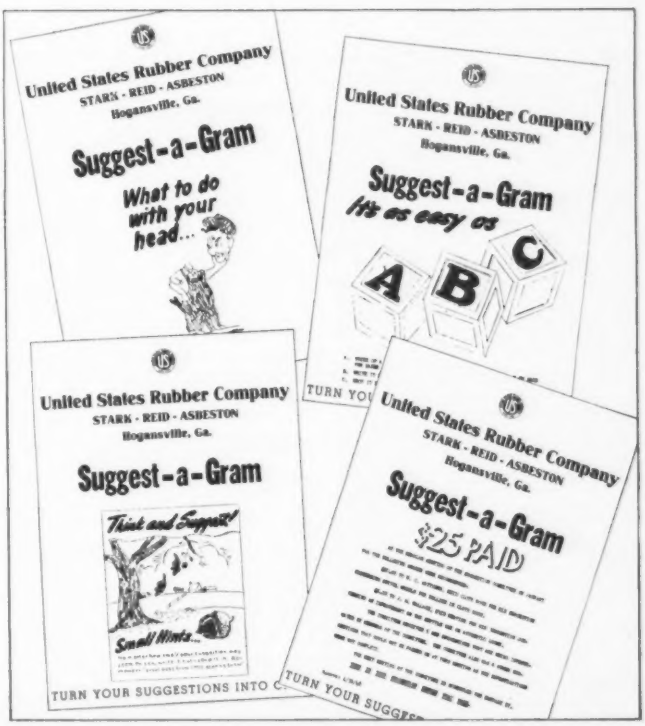
Company policy defines a suggestion as a "positive, constructive idea for making a better product by a safer method or at a lower cost." The suggestion awards are expected to bring out new and original ideas beyond what normally could be expected from a given job.

The award is a percent of the estimated savings to be obtained by the suggestion during the first year of its operation. One-third of the cost of putting the suggestion into effect is deducted from the estimated total savings in arriving at the net savings from a suggestion.

The suggestion award amounts to 20% of the net savings when the suggestion is submitted by wage employees, direct and indirect labor, and clerks. The award is 15% of the net savings when submitted by section men and skilled mechanics. The award is 10% for supervisors and overseers.

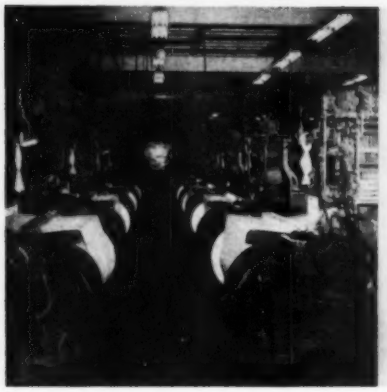
Where savings cannot be computed accurately, the judgment of the com-

(Continued on page 220)

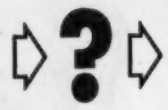


***LOCALLY MADE POSTERS** which carry a message designed to stimulate thinking and action are placed on special suggestion-system bulletin boards throughout the mills.*

Photograph courtesy of Bath Mills, Bath, S. C.



GOOD WARPS, the beginning of quality cloth, are expected by every weaver. Given these and good filling, the responsibility for good cloth is in the hands of the weaver.



THE QUESTION: How well is weave-room responsibility met?

Photograph courtesy of Pepperell Mfg. Co. Opelika, Ala.

CLOTH INSPECTION quickly gives an answer. From the record of seconds, the effectiveness of weave-room practices and controls can be judged. Alabama mills study control programs.

SLASHING and WEAVING Explored by Alabama Men

HIGHLIGHTS: *Synthetic covers for slasher squeeze rolls pay for themselves in about a year—Gas-fired dryer reduced shedding at the loom 28%—Endless loom check straps save about 40% of strap cost—Quilled filling saves money in the weave room.*

A saving of $160 in 27 months in the cost of a back squeeze-roll cover on a slasher was realized at Alabama Mills, Clanton, by the use of a synthetic cover. The cover cost $150 and replaced 135 yd. of wool slasher blanket that would have been used in the 27 months at a cost of $310.

The mill also tried a synthetic cover on a front squeeze roll; but it left too much size on the yarn, and there was too much shedding at the loom. These conditions do not occur when a synthetic cover is used on the back roll and a wool blanket is used on the front roll. When the rolls are covered in this manner, weaving results are about the same as when both rolls are covered with a wool blanket.

The synthetic cover has a tendency to get soft and spongy as a result of contact with the heated size. The sponginess can be removed by buffing the roll cover. The buffing restores the round shape of the cover and renews the hard surface.

Warps run at Clanton range from 1,700 ends to 4,900. Yarn numbers are 15s, 18s, and 34/2.

THE ALABAMA TEXTILE OPERATING EXECUTIVES held its spring meeting at the Alabama Polytechnic Institute, Auburn. Their questions and answers on slashing and weaving practices discussed at the meeting are condensed for publication here.

Officers elected were: **Robert L. Rearden**, West Point Mfg. Co., gen. chmn., succeeding **C. H. Moody**, superintendent, Dwight Mfg. Co., Alabama City; **Robert Horsley**, superintendent, Pepperell Mfg. Co., Opelika, vice-gen. chmn.; and **Ben Crawford**, Southeastern Engineering Co., West Point, Ga., sec.-treas.

Members elected to the executive committee were: **W. E. Williams**, superintendent, Avondale Mills, Birmingham; **C. A. McAbee**, superintendent, Huntsville Mfg. Co., Huntsville; and **Albert Johnson**, superintendent, Lanett Mill, West Point Mfg. Co., Lanett.

The following questions were asked from the floor:

Question: Does size penetrate the synthetic cover and reach the steel roll?

Answer: No.

Q.: Do you have any trouble from small blisters appearing on the surface of the cover?

A.: No.

Q.: Do the ends of the cover on the outside of the yarn sheet give you any trouble?

A.: No.

Q.: How do you determine when the roll needs buffing?

A.: It gets soft and out of shape.

Q.: You said you hadn't noticed any improvement in weaving conditions. Are there any other advantages except the saving you made?

A.: No.

Synthetic covers were tied on both the front and back rolls at Fairfax Mill. Results were no better than when the cover was used on the front roll alone. Several densities of cover were tried.

Yarn numbers run on the slasher were 10s, 15s, and 16s. Temperature in the size box was kept at 210° F.

Avondale Mills, Pell City, has used a synthetic cover on a back roll more than two years. Results have been:

1. Cover shrinks at the ends and swells in the middle.

2. It gets so slick and smooth that yarn slips on it.

3. Lint collects on the roll and keeps piling up.

4. It doesn't blister or form cracks to punch the yarn.

When the cover needs to be buffed, it is placed in a lathe and buffed with a sandstone.

Pell City has found the synthetic cover more economical than a wool cover. But part of the saving on the back roll is offset by the necessity for covering the front roll with wool more frequently.

HOT-AIR DRYER. A gas-fired hot-air dryer at Avondale Mills, Birmingham, can be run as fast as the beams in the creel will stand, it was reported. There is no practical limit to the drying capacity.

The only difference in weaving that has been noticed is less shedding at the loom. According to comparisons made by a research institute, shedding at the loom was decreased 28%. No difference in the appearance of the yarn has been noticed.

The mill can give no reason for the decrease in shedding. An opinion was given that the yarn is subjected to less baking in the drying area than on steam cylinders and the yarn and size might be cooked into a sheet that is less brittle. The more pliable size would be torn up less when the ends were split.

Other advantages of the hot-air dryer were:

1. It is cheaper to operate than steam-cylinder slashers.

2. It runs faster because yarn can be dried faster.

3. The slasher room is cooler and easier to keep clean.

Disadvantages were:

1. A light sheet of fine yarn can't be run on it. It rolls the yarn so much that the sheet can't be split.

2. Slasher operators have to learn to operate the controls.

Questions from the floor included:

Q.: You said you can't run a light sheet of fine yarn. What do you call a light sheet?

A.: Under 2,000 ends.

Q.: What do you run?

A.: About 3,400 ends of 30s yarn.

Q.: How fast do you run it?

A.: About 50 yd. a minute.

Q.: How do you control the heat to keep from burning the yarn?

A.: The slasher runs at a constant speed. We control the amount of drying by controlling the heat. If the slasher is slowed down, the gas flame goes out and fans exhaust the heat in the drying chamber. In 15 sec. the dryer is cool enough not to bake the yarn.

Control of Seconds

Prevention

1. Loomfixers inspect all cloth on the looms at the beginning of the shift.
2. Weavers inspect their cloth at the beginning of the shift and continue to check throughout shift.
3. Supervisors inspect all cloth on the looms each day.
4. Supervisors check looms making bad cloth.

Correction

1. Cloth inspectors record defects.
2. Cloth room returns defect tickets or summary to weave room.
3. Cloth room also returns seconds.
4. Supervisors show seconds to loomfixers and weavers.
5. Supervisors analyze defect tickets or summary sheet and check worst looms, or as many looms as they can.
6. Give defect tickets to weavers and have tickets attached to looms for next-shift weavers and fixers to see.
7. Record defects and loom, making them for the week.
8. Record loom repairs, good or bad production, etc.

Endless Loom Check Straps

Mill No.	Model loom	Speed (p.p.m.)	Strap life (hr.)
1	40-in. E	165	36,000 (one strap)
	40-in. D	150	6,600
	48- and 54-in. D	144	19,200
2	X-2	172	(Installed only two months)
3	—	192	3,020

Q.: Do you also have a moist-air removal system?

A.: Yes.

Q.: How much of your production do you slash on this one slasher?

A.: About 40%.

VISCOSITY METERS. A viscosity meter is used by Fairfax Mill, West Point Mfg. Co., to check the viscosity of size; but temperature and other factors affect the test so much that the mill does not rely on the results. Temperature of the size is maintained at about 210° F., but a change of 2 or 3° will affect the meter reading as much as a change in the viscosity of the size.

A cylinder-and-piston type of meter is used at Columbus Mfg. Co., Columbus, Ga. Although temperature affects the reading, the mill finds the meter useful as a check on change of temperature or viscosity. It is especially useful to the size man as a check for possible error in mixing the size.

Q.: Have you seen any difference in weaving?

A.: We haven't been able to tie any weaving advantages to the use of the viscosity meter.

LOOM CHECK STRAPS. Mount Vernon-Woodberry Mills, Tallassee, is installing endless check straps on looms as the looms are overhauled. The looms are E, D, and X models, with X-model fingers and chutes. Average strap life for the different models of looms varies from 6,600 hr. to 19,200 hr. A report was given for only one E-model loom. The endless strap on that loom ran 36,000 hr.

The increased life of the check strap should not cause a decrease in life of shuttles, binders, and pickers, this mill reported. If there is a decrease, the cause is probably due to improper functioning of the strap. If the strap is too long or not set properly, it will affect the other parts.

The correct length of endless strap to use on a loom is determined as follows:

1. Looms with a 6½- or 7½-in. stroke should carry a strap barely long enough to permit the full stroke to be made.

2. On looms with strokes longer than 7½ in., the length of the strap should equal the stroke plus ½ in.

Buck Creek Cotton Mills, Siluria, has had 100 X-2 looms with 7½-in. strokes equipped with endless straps for two months. The looms operate at 172 p.p.m. Production is as good as on looms with conventional straps. Picker sticks wear less because the

(Continued on page 147)

NOVELTY FABRICS CAN BE WOVEN EASILY

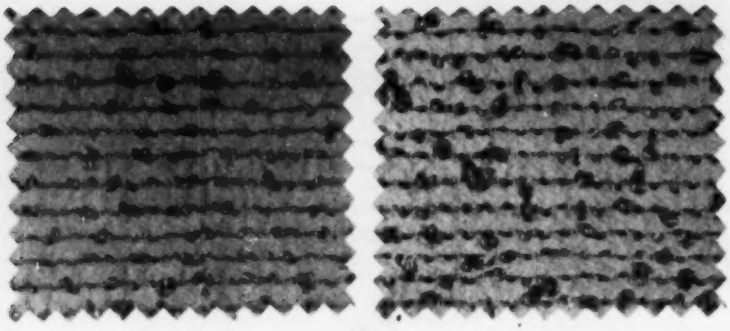


FIG. 1

FANCY YARN EFFECT in this fabric has been improved by the removal of a soluble binder yarn. Photographs show fabric before and after binder was removed.

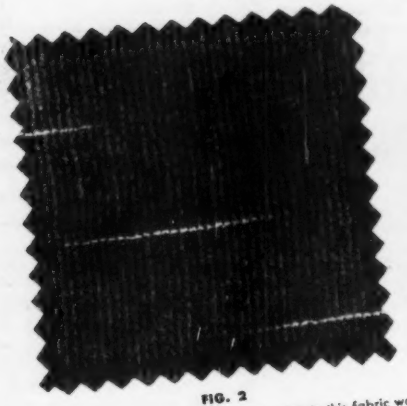


FIG. 2

MYSTERIOUS APPEARANCE of white slub in this fabric was achieved by dissolving both core and binder of the fancy yarn after the cloth was woven.

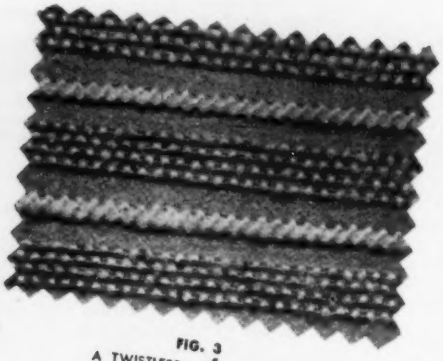


FIG. 3

A TWISTLESS cotton decorative yarn was used in this wool fabric.

FIG. 4

AFTER CLIPPING, one part of combination yarn was washed away, leaving untwisted tufts shown in bottom part of picture.

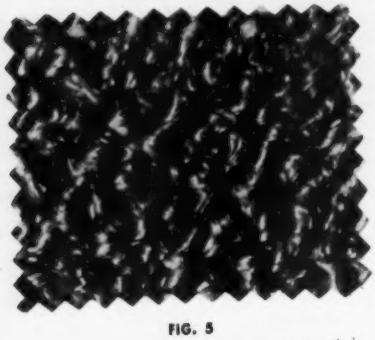


FIG. 5

IMITATION ASTRAKHAN fabric was produced on an ordinary loom by using alginate yarn.

Novel Effects Possible With SOLUBLE YARNS

HIGHLIGHTS: *Extremely lightweight fabrics only one possibility—Untwisted-yarn cloth feasible—Decorative-yarn binders can be removed—"Mysterious" slubs can be introduced—Hosiery manufacture aided.*

By DR. J. MENKART

DEVELOPMENT IN BRITAIN of alginate rayon is an example of investigation which produced a result different from that originally aimed for. Alginic acid (a substance chemically similar to cellulose) is the most valuable organic constituent of seaweed; its extraction is the latest chapter in the long story of the attempts made to use as a source of raw material the vast quantity of seaweed available on the western shores of Scotland and Ireland.

In the eighteenth century, sodium carbonate was produced from kelp (seaweed ashes) on a considerable scale, but the industry was killed by Leblanc's invention of a process for obtaining soda from salt. A revival took place with the discovery of iodine; but after the first World War the competition of the Chilean nitrate industry, which gains iodine as a by product, proved too strong. Finally, in the 1930's the extraction of alginic acid on a commercial scale was begun.

Alginic acid and its derivatives are used for making transparent films and as emulsifying, jelling, or thickening agents in a number of industries. In the early part of the second World War, an examination was made of the potentialities of alginic acid as a substitute for cellulose in the production of rayon. The work failed in its initial object, because most of the yarns produced were colored and too harsh. Some of them were non-inflammable, and found use for war purposes; the most interesting discoverey, however, was calcium alginate rayon, which is strong when dry but swells and weakens considerably in water and dissolves completely in a weak alkali, such as a dilute soap solution.

DESIGN POSSIBILITIES. Solubility in soap may not, at first sight, appear to be a suitable characteristic for textile material. Nevertheless, the textile technologist, particularly the wool technologist, has always realized the potentialities of readily removable yarns in enlarging the scope of design. Interest in the subject has been limited by expense and difficulty of handling the available chemically removable materials, cotton and cellulose acetate. Thus the advent of calcium alginate, a cheap yarn readily dissolved away in the ordinary course of processing, has made possible a number of new developments in all sections of textile manufacture.

As soluble alginate yarn was discovered in Britain, British technologists were the first to exploit its commercial possibilities. These can be classified under two headings:

(1) The production of new fabrics and effects.

(2) The simplification of manufacturing methods of existing materials.

Of the first group, the application which has achieved the widest commercial development to date is the manufacture of lightweight wool fabrics for use such as evening dress wear, blouses, or scarves.

The intrinsic properties of the wool fiber—particularly its resilience and moisture absorbing capacity—make it extremely suitable for this type of marial; but its use for this purpose has, so far, been limited. Although very fine wool yarns can be spun, they are too fragile to be woven or, at any rate, woven economically. By doubling a fine wool thread with a carrier thread of calcium-alginate rayon, a combination yarn capable of weaving without difficulty is produced.

Later washing the fabric in soap

(*Continued on page 208*)

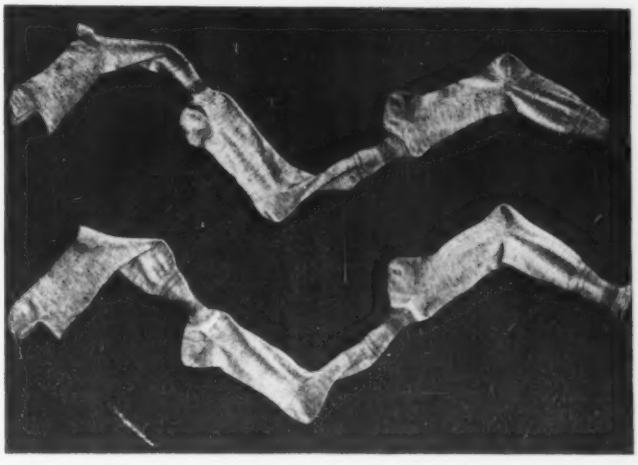
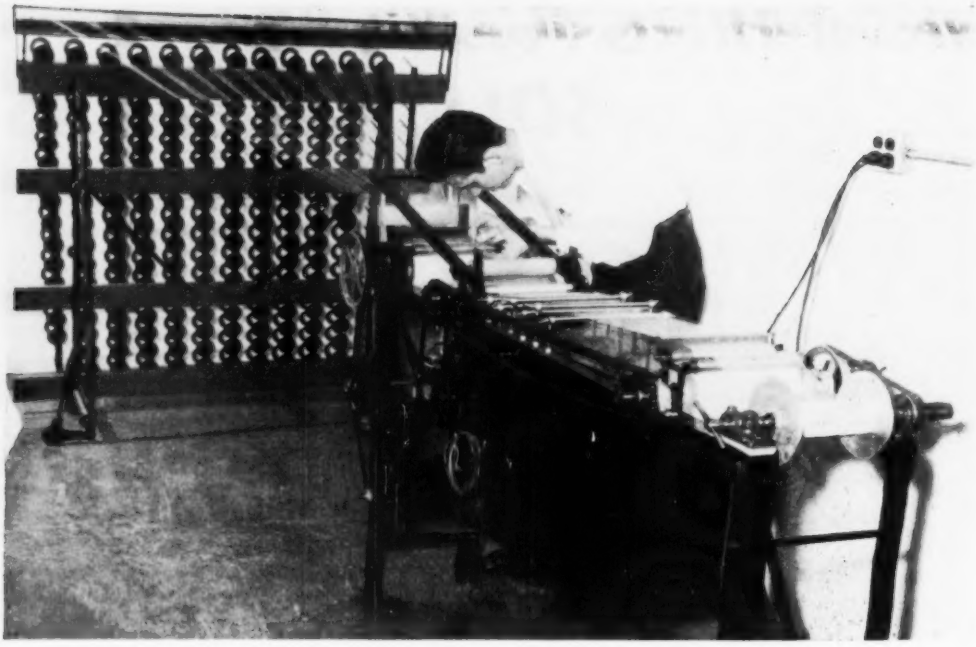


Fig. 6. SOCKS SEPARATE THEMSELVES during scouring: soluble yarn joins them.

Dr. Menkart is a member of the scientific and technical liaison department of the International Wool Secretariat, London. He has carried out research in textile chemistry at Leeds University, England.

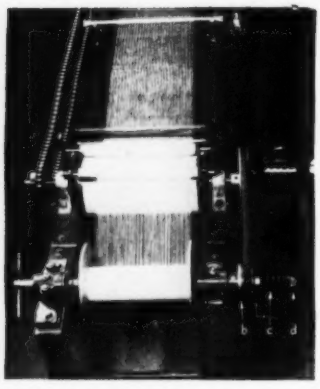
U. S. Soluble Yarn

▶ A NEW TYPE of soluble yarn has just been developed in New Orleans by the Southern Regional Research Laboratory of the U. S. Dept. of Agriculture. It is spun from a compound made from wood or cotton cellulose (sodium-carboxymethyl cellulose) and the salts of some metals (lead, copper, aluminum). The fiber spun is similar to alginate rayons in that it dissolves in soapy or weakly alkaline solutions; consequently, its potential uses are similar to those described here for the British yarn.—*Editor



MINIATURE SLASHER makes warps 7 in. wide from spools on pin-type creel.

Miniature SLASHER Developed at N.C. State



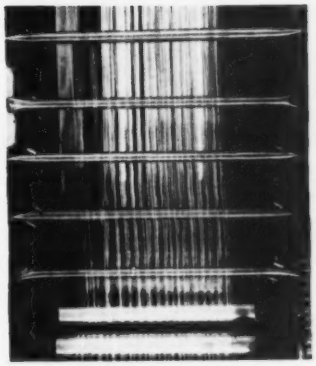
FRICTION DRIVE of beam allows for increasing beam diameter. A sheave on the delivery-roll shaft drives beam through V-belt. Loosely mounted sheave on beam axle has fibre-covered friction plate which presses against clutch face b which is fixed to beam axle. Pressure is applied by spring c held in place by adjusting nut d.

HIGHLIGHTS: *Slasher used for cotton-tricot research applicable in pilot plants and schools—Drying done by electric heating elements—Slashing operation is duplicated except for can-type drying.*

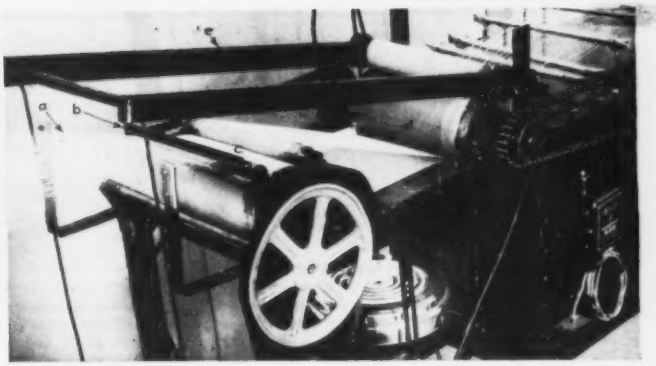
By W. E. SHINN and C. BOYCE SINK
School of Textiles, North Carolina State College

A MINIATURE SLASHER has been designed and built at the School of Textiles, North Carolina State College, Raleigh, N. C., for processing small warps for experimental work. The slasher is an early development of a research project on tricot-knitting of cotton, being carried out under contract with the U. S. Dept. of Agriculture and authorized by the Research and Marketing Act. The contract is being supervised by the Southern Regional Research Laboratory which is under the Bureau of Agricultural and Industrial Chemistry. Construction of a similar slasher from details presented here may be useful for mill pilot plants or for other textile schools. In both places, slashing has been a difficult operation to experiment with in view of the size of machinery and quantities of materials usually involved.

The machine is built with a size pan, size roll, and quetsch for wet processing a sheet of yarn 7 in. wide; an electrically heated drying oven; a series of split rods for separating the warp; a spreading comb; a take-up or delivery roll; and a friction-driven beaming unit designed to make spool warps 7 in. wide and 6 in. in diameter. The "warp" holds about 3 lb. of yarn. At full capacity, the machine processes



SIX SPLIT RODS of 3/8-in. stainless-steel tubing divide warp sheet into seven parts to prevent sticking of ends.



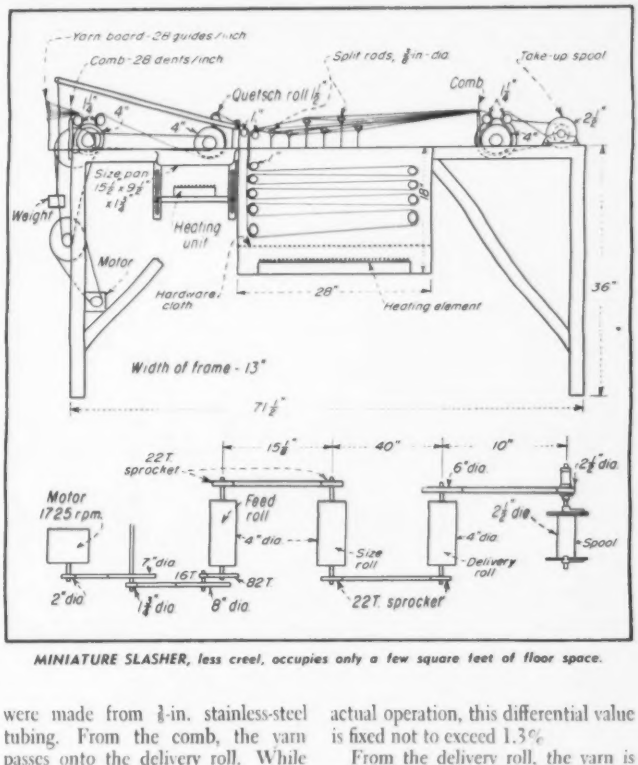
YARN PASSES through yarn board a which establishes correct spacing, through 28-dent comb b, and around feed rolls c. Largest feed roll has same diameter as size roll d and delivery roll. Arms e hold weights for quetsch roll.

196 ends with a uniform spacing of 28 ends per inch of width.

The creel is a pin-type adaptable to 3⅜ x 2¼-in. spools. Yarn is brought up over a glass guide roll, passes through a spacing reed, and converges into a thread board containing 28 guides per in. where correct spacing is established. From the thread board, yarn passes through a 28-dent comb into a system of three feed rolls. The largest of these three rolls is equal in diameter to the size roll and the delivery roll. These rolls are positively driven at a uniform rate of speed by a sprocket-and-chain driving system. The function of the supply rolls is to grip the warp sheet and supply it to the size roll with a minimum of tension. Wet yarn is thus relieved of the tension necessary to turn the spools, and the yarn is permitted to enter the wet-processing and drying areas in a relaxed condition.

DRYING. The yarn passes under and around a brass size roll which also functions as an immersion roll. Excess size is removed by a squeeze roll mounted in ball bearings in a framework comprised of two pivoted levers weighted at the opposite ends to secure the necessary pressure. The yarn passes from the quetsch over a guide roll and descends into the drying oven. In the oven, the yarn travels back and forth around a series of aluminum-tubing guide rolls. Heat is supplied by a series of heating elements mounted on a concrete slab placed in the bottom of the oven. The heating elements are separated from the upper drying space by a grill of hardware cloth of ⅛-in. mesh.

On emerging from the drying oven, the yarn sheet is divided into seven parts by six split rods. These split rods



MINIATURE SLASHER, less creel, occupies only a few square feet of floor space.

were made from ⅜-in. stainless-steel tubing. From the comb, the yarn passes onto the delivery roll. While this roll is the same diameter as the feed roll and the size roll, it is usually desirable to add several layers of cotton sheeting to provide a cushion and to supply the tension necessary to draw the yarn through the split rods in an efficient manner. Any differential in surface speeds between this roll and the feed roll represents stretch. In actual operation, this differential value is fixed not to exceed 1.3%.

From the delivery roll, the yarn is wound onto a 7-in. tricot spool. Since the length of yarn processed per minute is constant, it was necessary to provide a friction drive in the beaming unit to permit a slowing down of the spool to compensate for its increasing diameter. The spool is driven from a V-belt and sheave fixed on the de-

(Continued on page 210)

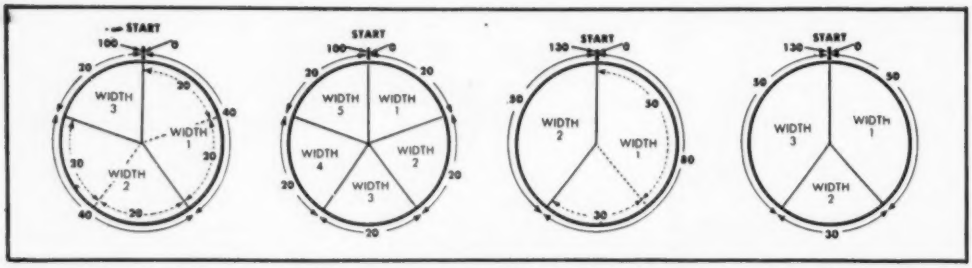


FIG. 1. SCHEMATIC PATTERN WHEEL here consists basically of two widths of 40 and one width of 20. Two small widths of 20 are fitted into each of the larger widths.

FIG. 2. RENUMBERED WIDTHS are put into redrawn wheel, resulting in a modified wheel of five widths, instead of the original two widths of 40 and one of 20.

FIG. 3. ORIGINAL PATTERN in this example consists of one width of 80 and one of 50. A smaller width of 50 and a remainder width of 30 are fitted into the larger width of 80.

FIG. 4. REDRAWN WHEEL shows a modified pattern with two widths of 50 and one of 30, instead of the widths of 80 and 50 shown in original pattern wheel, Fig. 3.

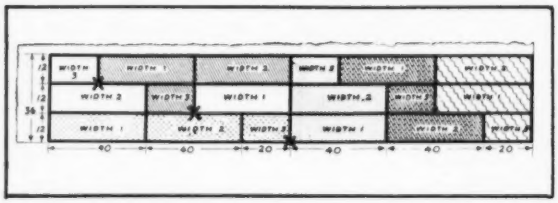


FIG. 5. BEFORE MODIFICATION, pattern areas of Fig. 1 look like this.

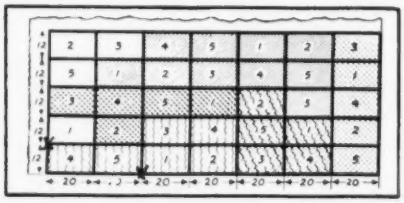


FIG. 6. AFTER MODIFICATION, pattern areas of Fig. 2 look like this.

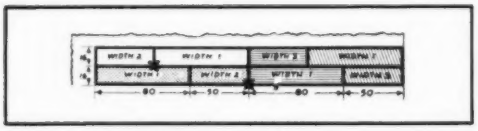


FIG. 7. L-SHAPED PATTERN AREA, before modification, looked like this on graph paper.

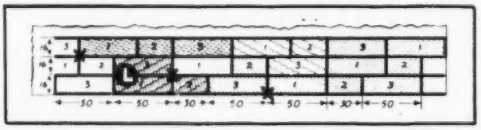


FIG. 8. TOTAL AREA of the modified L-shaped pattern is the same as that in Fig. 7.

Pattern-Area LAYOUTS Use Three Needle Positions

HIGHLIGHTS: *Pattern-area shapes can be modified by utilizing secondary width—Knit and tuck patterns need only two of the needle positions—Three-position cloth consists basically of knit and welt fabric with lay-in principle to tie in floats.*

By ABRAHAM ABRAMS and LESTER MISHCON
Supreme Knitting Machine Co., Inc., Brooklyn, N. Y.

ANY OF THE SCHEMATIC Supreme pattern wheels drawn previously may be used in laying out pattern areas into which the pattern will be drafted; but the knitter may find it inconvenient to draft the desired pattern within the shape of any of these pattern areas. If this is so, the knitter has the choice, in combinations of wheels and cylinders where there is a secondary width, of altering the relation between the primary and secondary widths and thus changing the shape of the pattern area. The total area always remains the same, and any pattern that can be drafted in one area can be drafted in the other. Modifying pattern areas, therefore, is simply a matter of convenience.

Modified schematic pattern wheels are used for the graph-paper layout of pattern areas in the same manner as any schematic pattern wheel. However, it should be noted that the pattern "advance" is still the original primary pattern width, and not any of the modified widths.

Figs. 5 and 6 show a few of the pattern areas for Fig. 1 before and after modification. It can be seen that it is possible to convert some six-sided or L-shaped areas to four-sided or rectangular areas. Both contain the same number of boxes, with only the

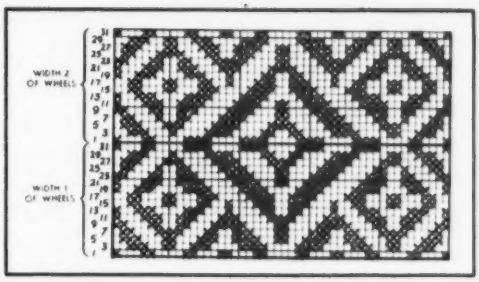


FIG. 9. PATTERN FIGURE of large and small diamonds includes filled square for the knit position and empty squares for the tuck position.

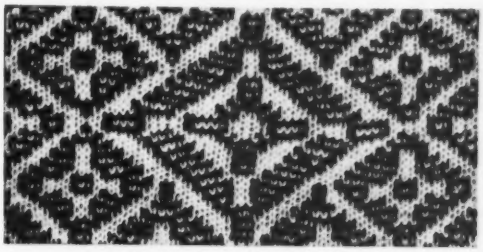


FIG. 10. JERSEY OR PLAIN STITCH like that shown here results from setting only the alternate feeds which follow the positive pattern wheels.

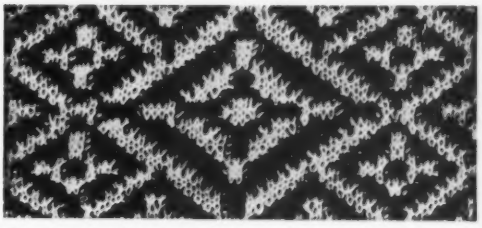


FIG. 11. ALTERNATE FEEDS equipped with negative pattern wheels give a tighter, thicker fabric than the plain stitch. Reading of each negative wheel is exactly opposite to its preceding positive wheel.

Rules for Modifying Pattern Areas

1. Make a schematic wheel drawing and fit as many of the smaller widths as possible into each of the larger widths. They do not have to come out exactly even.
2. Redraw the pattern wheel schematically and renumber the widths 1, 2, 3, 4, etc., in clockwise order. Mark the number of slots in each width.
3. Check the total number of slots on each width with the total number of cuts in the pattern wheel. Including any small remainder, the slots should equal the cuts.

Filling Pattern-Wheel Slots With Jacks

1. Remove wheel cover and mark starting slot with red pencil.
2. Scanning the pattern reading from left to right, fill wheel with jacks in a clockwise direction.
3. Push jacks back so they rest firmly against center circular shoulder.
4. When wheel is filled, align arrows on cover and wheel, and screw cover tightly in place.
5. Repeat process for all wheels for which there are readings.

Filling Wheels From Three-Position Readings

1. Draft the basic knit and welt figure in the pattern area.
2. Lay out second pattern area, using both positive and negative wheels.
3. Mark each negative wheel opposite to its preceding positive wheel, using red pencil for contrast with positive-wheel markings.
4. Indicate the tie-in interval for the hidden floats of positive and negative wheels. (Dot in square shows tuck position.)
5. Check tie-in pattern upon completion, to see if it agrees with good knitting practice.
6. Read the drafted pattern, and record on horizontally lined paper the jack positions in sequence for each wheel.
7. Fill individual pattern wheel with jacks, in accordance with wheel readings.

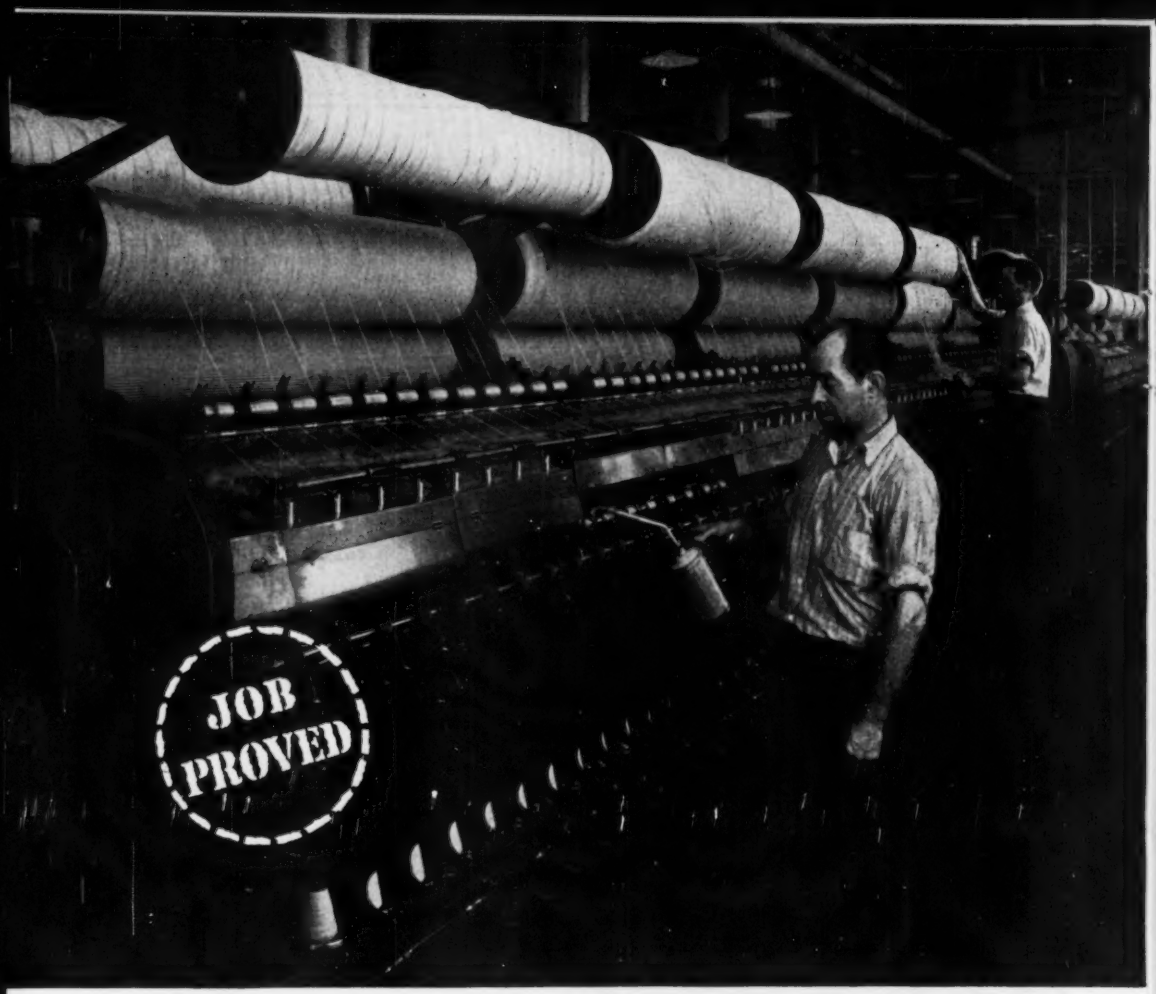
shape of the area having been changed. In order to make the diagrams clearer, the graph paper background has not been shown.

Figs. 7 and 8 show a few of the pattern areas for Fig. 3 before and after modification. It can be seen that it is also possible to change L-shaped pattern areas to L-shaped pattern areas of different dimensions. The total area, however, always remains the same.

USE OF GRAPH PAPER. The knitter is now able to calculate and lay out the pattern area. Since knitted cloth generally has more courses to the inch than wales (approximately 25% more), graph paper which is ruled 12½ boxes to the inch in a vertical direction and 10 boxes to the inch in a horizontal direction should be used. This paper will result in a truer representation of how the pattern would appear in the cloth. However, such paper is difficult to obtain, and normally graph paper with either 8 or 10 squares to the inch in both directions is used. As a result, any pattern drawn on such paper will actually be somewhat distorted; showing a greater apparent height than will actually exist in the cloth. Therefore, in drafting a pattern, one must deliberately increase the apparent height shown on the graph paper despite the fact that the pattern on paper may appear somewhat distorted. In other words, elongate the pattern in a vertical direction when it is drafted, since it is always expected to appear "squattier" in the cloth than it does on graph paper.

Before drafting a pattern, the knitter should decide how large he wishes it to appear in the cloth. Then, by taking into consideration the cut of the cloth in question, he will know how many squares it should occupy on graph paper. For example, the knitter wishes to make a pattern figure approximately ¼-in. square in 18-cut cloth which has 21 wales to the inch and 28 courses to the inch. Therefore, when he drafts the pattern figure on graph paper, it will occupy a space five boxes wide and seven boxes high.

KNIT AND TUCK PATTERN. Fig. 9 shows the pattern that was drafted in the chosen pattern area. Sensibly included are portions of the surrounding



CUTS OIL CONSUMPTION 50%

Suntac and Sunvis Oils Last Longer, Lubricate Better, Eliminate Endless Clean-ups and Costly Drip

One of the largest manufacturers of papermaker's felts and woolen mechanical goods found lubrication costs high in his spinning department. Oil leaked from drive-shaft bearings and other parts of the spinning frame, ran too rapidly through ring-lubricating wicks. Flooring became slippery, making an endless chore for the clean-up crew. Because of the high standards of cleanliness throughout the rest of the plant, the manufacturer was eager to eliminate this untidy and hazardous condition.

At the suggestion of a Sun engineer, the management switched to two "Job Proved" Products—Suntac for spinning frame bearings, Sunvis for wick lubrication of spindles and spinning rings. A year has passed since then—plenty of time for comparison with the products previously used. Suntac stays in the bearings longer; Sunvis feeds properly through the wicks, and keeps them softer. Drip, with its nuisance, hazards, and expense, has been practically eliminated. Oil consumption has been reduced as much as 50 per cent.

This performance is typical of "Job Proved" Sun Products in all their varied uses. By giving superior results, they help increase profits. For complete information about Sun textile lubricants and processing oils, call or write your nearest Sun Office.

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area so that the over-all pattern effect can be seen and the pattern may be matched and interlocked with the surrounding areas. The pattern figure, a series of large and small diamonds, has been drawn with the following considerations in mind:

1. Since this is a knit and tuck pattern for cotton cloth, it has been limited to four horizontal tucks in sequence. This is a practical limitation to prevent floats of too long a length, since it is possible to have longer floats if they are not objectionable.
2. The crossed diagonal lines of the pattern hide the rise and fall of the pattern.
3. The pattern has been matched with all four adjoining areas.
4. Whatever pattern or portion of a pattern appears in width 1 of the area in which is being drafted, that same pattern or portion of a pattern must appear in width 1 of all the pattern areas. This rule applies to all widths.

To "read" the drafted patterns so that the wheels can be filled, for this knit and tuck pattern, an x in a square represents the knit position of the needle while an empty square represents the tuck position. Draw a horizontal line approximately 8 in. long and label it Wheel 1. Mark the space above the line "knit" and that below the line "tuck". Readings are then made by scanning the pattern, Fig. 10, from left to right, and as the pattern is scanned, the entries for this wheel will be made from left to right above and below the horizontal line, moving each entry over one space to the right from the previous one. The number of x's in horizontal sequence will be recorded above the line while the number of empty squares in horizontal sequence will be recorded below the line. This will result in two horizontal lines of numbers called a reading, from which the pattern wheel may be easily filled.

The reading for wheel 1 is made as follows: width 1 or wheel 1 is read from left to right on line 1 of width 1, and then the reading for the wheel is completed when width 2 of wheel 1 is read from left to right on line 1 of width 2. The complete reading for wheel 1 is:

Wheel Knit	1 2 2 2 2 2 2 2 2 2 2 4 4 4 2 1		40
1 Tuck	3 4 3 3 4 3 3 4 3 3 4 4 4 4 4 3		56
	4 2 1		40
	4 3		56

(Check: 40 + 56 = 96)

The reading for wheel 3 is made as follows: Width 1 of wheel 3 is read from left to right on the second line of width 1, and then the reading for this wheel is completed when width 2 of wheel 3 is read from left to right on the second line of width 2. All positive wheels are read in a similar manner, width 1 of wheel 31 being read on the 16th line of width 1 and completed by reading the 16th line of width 2.

Only readings for the positive pattern wheels have been mentioned. If a tighter, thicker fabric with clearer designs is desired, all the alternate feeds are equipped with negative pattern wheels. The resulting cloth is shown in Fig. 11. The reading for a negative pattern wheel is then exactly opposite to its preceding positive wheel. For example, if wheel 1 reads: knit 1, 2, 2, 2, 2, 2, 2, 2, 2, 2, 2, 2, 4, 4, 4, 4, 2, 1 (40), and tuck 3, 4, 3, 3, 4, 3, 3, 4, 3, 3, 4, 4, 4, 4, 4, 3 (56), then wheel 2 will read: knit 3, 4, 3, 3, 4, 3, 3, 4, 3, 3, 4, 4, 4, 4, 4, 3, (56) and tuck 1, 2, 2, 2, 2, 2, 2, 2, 2, 2, 2, 4, 4, 4, 4, 2, 1 (40).

The knitter, therefore, will not find it necessary to make complete readings for the negative wheels. When filling wheels, simply invert the reading of the positive wheel to get the reading for its negative wheel.

If the pattern does not have to be prominent, greater production and lighter cloth can be obtained on the Supreme machine by setting the alternate feeds which follow the positive pattern wheels to a jersey or plain stitch. Fig. 10 shows the product.

A simple arithmetical check should be made on all readings before the jacks are inserted in the wheels. This consists of adding all the figures for one wheel above and below the horizontal line. The total should correspond with the number of cuts.

TWO-POSITION READINGS. When all the wheel readings have been made from the knit and tuck pattern, the pattern wheel slots are ready to be filled with jacks. With the Supreme Model RO, only one type, the high jack, is used, and the knit position or an x in a square represents a high jack in the slot, while the tuck position or empty square represents an empty slot. With two-position work on the Supreme Model ROF, both jacks are used. In this case, the knit position or an x in a square represents a high jack while the tuck position or empty square represents a low jack.

FILLING THE WHEELS. Remove the cover from wheel 1 and mark the starting slot (indicated by the engraved arrow) with a red pencil such as is used for writing on metal or glazed surfaces. Scanning the reading from left to right, one fills the wheel in a clockwise direction with jacks, starting from the engraved arrow. (See Fig. 12). For example, on the Supreme Model RO, fill the red starting slot (indicated by the engraved arrow) with a high jack, leave the next three slots empty, fill the next two slots with

Symbols for Three-Position Wheels

Needle Position	Pattern Symbol	Type of Jack
Knit position	X in a square	High jack
Tuck position	• in a square	Low jack
Welt position	Empty square	No jack

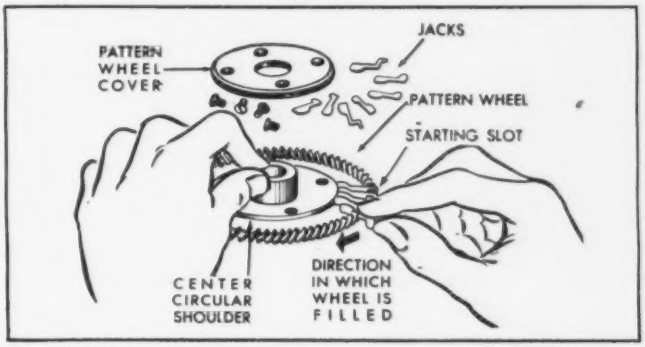
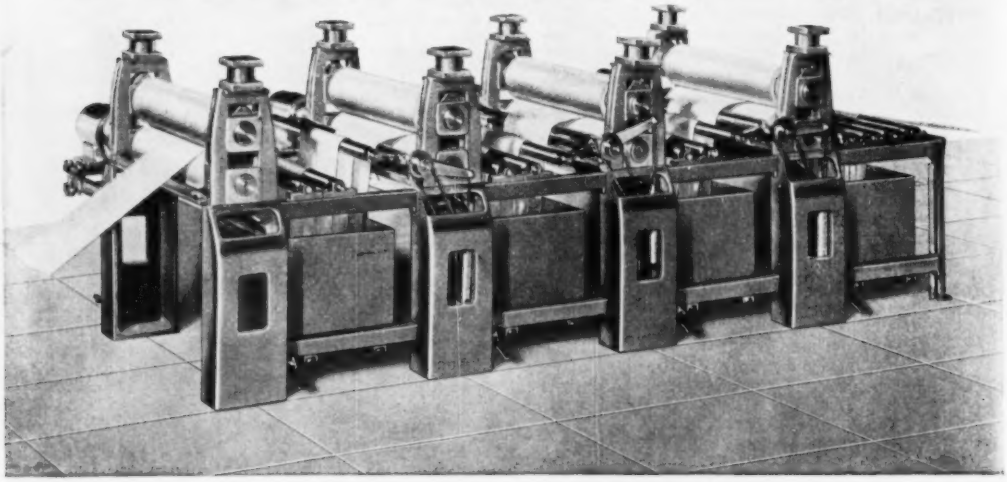


FIG. 12. JACKS are inserted into the pattern wheel slots in a clockwise direction, starting from the engraved arrow on the wheel. The three jack positions are high, low, and empty.



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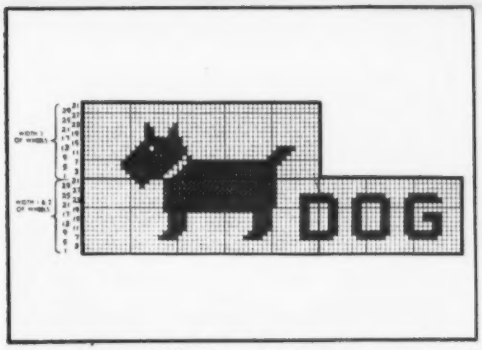

FIG. 13. PATTERN FIGURE of a knit- and welt-pattern dog drafted in the chosen L-shaped pattern area is shown here. Note that portion of letter "D" is in Width 1 and the balance in Width 2.

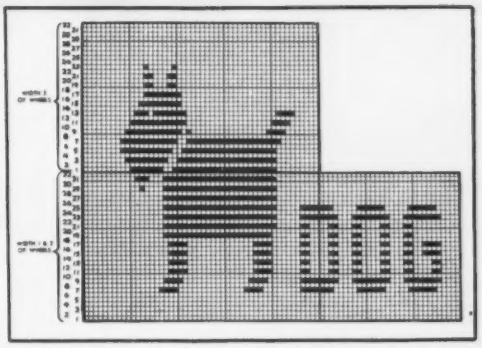

FIG. 14. TRANSFER of knit- and welt-pattern figure, using both positive and negative wheels in the pattern area, distorts its height. However, negative wheels can now be marked on the graph paper.

high jacks, skip the four slots, etc., until the wheel is completed. On the Supreme Model ROF, instead of leaving the tuck slots empty, they are filled with low jacks.

Always push the jacks back so that they rest firmly against the center circular shoulder. When the wheel is completed, align the engraved arrow on the cover with the engraved arrow on the wheel and screw the cover tightly in place. Repeat for all wheels for which there are readings.

The method of drafting, reading and filling wheels outlined in this and the previous chapter also applies to knit and welt cloth, since that fabric is made on Supreme pattern-wheel machines by using only two of the three needle positions. In patterning knit and welt cloth, an x in a square still represents the knit position, but the empty square represents the welt position. Therefore, when filling the pattern wheels for knit and welt work on the Supreme Model RO and the Supreme Model ROF, the x in a square represents a high jack while the empty square represents an empty slot.

The method of drafting, reading, and filling wheels outlined also applies to the patterning of loop cloth on the Supreme Model ML, in which there are only two types of sinker loops, normal and raised. For that type cloth, an x in a square represents a raised sinker loop or a jack in the slot of the pattern wheel while an empty square represents a normal sinker loop or an empty slot of the pattern wheel.

THREE-POSITION READINGS. The method of creating three-position patterns and filling wheels outlined here is essentially a short-cut method. However, it is not advisable to use it in L-shaped pattern areas.

The first part of the method consists of the knitter drafting in the pattern area a basic knit and welt figure consisting of only positive wheels. The result is the small pattern figure of a dog illustrated in Fig. 13. The next step is to make a two-position knit and welt reading for all the positive wheels. The two-position reading for all the negative wheels will normally be exactly opposite to the preceding positive wheel. These readings will apply to the high jacks and the slots between.

The next step is to determine the pattern of the tie-in dots or low jacks. The first wheel or wheel 1 will carry a pattern of tie-in dots that will start with one in, the next one out, the next in, etc. The second wheel or the negative wheel should then also carry the same pattern. The third wheel will start with one out, one in, one out, etc., and its negative wheel or wheel 4 will also carry the same pattern. The fifth wheel or wheel 5 will go back to one in, one out, one in, etc. Once the basic pattern desired for the tie-in dots has been decided, the wheels can be filled.

Take wheel 2 as an example. Remove the cover of wheel 2 and mark the starting slot (indicated by the engraved arrow) with a red pencil such as is used for writing on metal or glazed surfaces. The first step is to fill the wheel with the low jack pattern. Since it was decided that the tie-in pattern for the second wheel would be one in, one out, one in, etc., starting in a clockwise direction, fill this wheel with the low jack, in accordance with the tie-in pattern until the red starting slot is reached again. The next step is to fill the wheel with the high jacks in accordance with the knit and welt two-position reading. Scanning the reading for wheel 2 from left to right, wheel 2 is filled as follows: Starting from the red starting slot, fill the starting slot and the next 89 slots :ll with high jacks. If there is a low jack already in the slot that calls for a high jack, simply remove it, and insert the high jack. Where the reading call for welt spaces, simply skip that number of slots whether they are empty or occupied with low jacks until you are again called upon to insert high jacks. Complete the reading of the wheel in this manner.

The next step requires that some of the low jacks or tie-in dots be shifted to agree with good knitting practice.

1. Examine the wheel in a clockwise direction. Whenever a low jack is in a slot right next to the approach side of a knit jack or a sequence of knit jacks, remove that low jack entirely if the pattern is one in, one out. However, if the pattern should be one in, three out, for example, simply remove that low jack and move it back one or two slots away. This move may necessitate shifting other low jacks so that no two tuck jacks occur in sequence. Do not shift any knit jacks. If the space between knit jacks is only one, two, or three slots, use no tuck jack.

2. Again examine the wheel in a clockwise direction. Wherever a low jack is in a slot right next to the withdrawing side of a knit jack or a sequence of kit jacks, remove that low jack entirely if the tie-in pattern is one in, one out. However, if the pattern should be one in, three out, for example, simply remove that low jack and move it ahead so that it is one slot away from the knit jack. This move may necessitate shifting other low jacks so that no two tuck jacks occur in sequenc.. Do not shift any knit jacks. If the space between knit jacks is only one, two, or three slots no tuck jack is necessary.

With this third selection from the book, "Pattern Wheel Designing for Circular Jersey Knitting Machines" by Abraham Abrams and Lester Mishcon of Supreme Knitting Co., Inc., TEXTILE WORLD concludes its series on the mechanics of pattern wheel knitting. Unfortunately, due to limitations on space, chapters of interest and value in the book had to be disregarded entirely.

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COTTON-MILL WASTE
Can Be Reduced

HIGHLIGHTS: *Waste standards for control may allow from 7 to 8% reworkable waste in some mills—Flat strips cut from 2.95 to 2%, with back and front plates at 0.022 in., flat speed 1½ in. per min.—Proper waste classification can increase income from waste.*

By E. H. HELLIWELL
New England Editor, TEXTILE WORLD

MAXIMUM WASTE-PERCENTAGE standards should be the first step in a campaign to reduce waste in cotton-mill operations. The standards should be set up for every type of waste in the mill. Without detailed standards, the top management usually tells the supervisors and the supervisors pass the word along to the operators that waste is excessive and must be reduced. Such periodic checking-up may result in a spasmodic and temporary reduction in waste, but one that is totally lacking in the element of control possible with waste standards.

Definite percentage figures should be given for each kind of waste. Random, round figures picked out of the air will not prove satisfactory as waste targets. The supervisors should follow up with an analysis of the real cause of excess; remedies should be determined, and concise instructions given to supervisors and operators on how to keep waste at or below the established maximum standards.

Vague statements such as "Our hard-thread waste should not exceed 50 lb. per week" or "Our card-lap waste should be kept under 80 lb. per shift" mean little to either the supervisor or the operator. They are recognized as mere pressure slogans to stimulate interest in waste reduction. On the other hand, maximum waste standards should be reasonable percentages of production and should allow for all factors that influence the amount of waste. If these waste percentages are not realistic figures, they also will be disregarded by the help, or worse, they may lead to mechanical difficulties.

For example, if bale-opener hands are instructed to pick cotton closely to prevent a loss of good cotton (and to reduce amount of waste), there is danger of small pieces of jute strands appearing in the finished product. This particular trouble is overcome in some mills by requiring all bag pickings to be stored in separate boxes so that they may be run in a special lot. Or, they may be inspected so that all workable fiber may be put into the regular work.

When card tenders are instructed to permit sliver to run on the floor before a piece-up is made after stripping, an increase in card-front waste should be expected; and a corresponding allowance should be made in the waste standard. Picker-lap-weight tolerances, creeling methods on the drawing frame, dumped-can disposals at the slubber, and other factors must be considered when the waste standards are set up.

GET THE FACTS. When comparing waste made in different mills, an executive recently criticized a superintendent for excessive slubber-drawing waste. A follow up showed that the mill's quality fabrics would not tolerate the practice of piecing from dumped cans at the slubber. Eight doffs were made on the slubber from each can of drawing, and the balance was put into reworkable waste. The amount of this waste would run from 2 to 3% despite close supervision and regulation of the full-can stop motions on the drawing frames.

The results of this investigation into slubber-drawing waste proved beneficial to the mill. Extended tests showed that slubber-drawing piecings could be made so that the defects would not appear in the finished fabric. As a result, slubber-drawing waste was reduced to a minimum.

Closer supervision is required to hold reworkable waste within prescribed limits than to control process waste. The process waste depends largely on machine settings, adjustments, and speeds. It is not greatly affected by careless or improperly instructed operators. Well-trained grinders and fixers usually can be depended upon to maintain uniform settings and adjustments.

However, standard settings and speeds should be rechecked as possible causes of excess waste. A change in settings or speeds may be advisable in cases in which inspections show too much good fiber in the waste. Inspection of process waste should be made daily.

WASTE QUALITY *should be checked daily to insure efficient removal of leaf and trash with a small loss of good cotton.*

Openers, pickers, and cards give visible proof of the presence of excessive good fiber in waste and can very easily be checked by the supervisor in his inspection at waste-removal time. Good fiber in card-flat strips is hard to detect without a waste test and a fiber array of the good fiber.

Reports from a number of mills show a variation of 2.5 to 4% of card-flat strips. Some of this variation could be due to the cotton grade which varied from Middling to Strict Low Middling. However, most of these reports showed that many of the figures could be reduced by correct flat and plate settings and flat speeds. A fiber analysis proved that some of the strips contained 28%

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trash and 72% good fiber. The mean length of the good fiber was only slightly less than that of the cotton in the picker lap.

Reduction in flat strips and in the content of good fiber was surprisingly good with but slight changes in plate settings and flat speeds. One mill reported the reduction of flat strips from 2.95% to 2% after setting the front and back plates to 0.022 in., and reducing the flat speed to 1¼ in. per min. No increase in web nep count, nor loss in yarn appearance could be detected. The saving in good cotton amounted to 6 lb. per card for 80 hr.

A waste report from one mill included no flat strips. Inquiry showed that they had an arrangement at the back of the card that combed the strips from the flats and caused them to drop onto the in-going lap, thus reworking them automatically. Claims were made that there was no noticeable loss in fabric quality, but there was an increase in the amount of lickerin waste.

OPENER-PICKER PRACTICE. Grid-bar spacing and angle are the two most important settings that affect waste in the opening and picking rooms. The more edge exposed to the beater, the greater the amount of waste the machines remove. Open spacings, close setting to beater, and higher beater speeds are factors that increase the amount of waste. Newer beater installations have grids with a larger number of thin bars that remove more trash and less good cotton. The total amount of waste removed from feeders, openers, and pickers ranges from 2.5 to 4%. The waste standards for such machines would of course depend upon the grade of cotton.

Good opening should effect an efficient removal of leaf and trash, with a small loss of good cotton. However, high percentages of waste do not always indicate good cleaning. A large part of the waste may be good cotton fiber; and the supervisor should check daily the quality of waste removed.

Rejected laps can increase the amount of reworkable waste, but this is mainly a mechanical problem. If all parts of the evener and winding motion are in good condition, rejects should be low. With a reserve-box feed on the finisher picker, the reject waste should not exceed 2 to 3% of the total laps made.

Picker tenders should avoid the use of bent lap rods. Tenders should also start a new lap carefully so that the full length of the lap can be used on the card. Lap-weight indicators for moisture-regain correction will also reduce rejections of laps in the picker room.

Typical Waste Standards
Grade: SLM, 1 in. Count: 24s Warp

Process	Standard (Maximum)
Opening and picking	
Vertical opener	0.5%
Buckley opener	1.0%
Pickers	2.0%
Cards	
Flat strips	3.0%
Lickerin	1.5%
Lap waste	1.75%
First drawing	
Reworkable, including all sliver waste and piecings	0.5%
Second drawing	
Reworkable, including all sliver waste and piecings	0.5%

WASTE AT CARDS. Over-filled card-sliver cans may cause considerable sliver waste in the card room. Regular specified doffing times will prevent this fault. Operators should put card-front waste and sliver piecings into properly marked waste boxes in order to prevent the mixing of valuable waste with low-priced sweepings.

Clearer waste is a small matter from a percentage standpoint, but a troublesome one in machine operation. A fiber analysis of clearer waste made on specimens taken from drawing frames may show too much long fiber. But the occasional loss of good fiber is not so important as the necessity for cleaning clearers regularly in order to prevent a building-up of waste in the form of eyebrows or curtains. Regular clearer-picking times are common in most mills; but they may not be frequent enough to eliminate an excessive collection of the waste, in which case some of it may be drawn into the sliver or roving.

Mills may get an excessive amount of clearer waste for other reasons. The condition of some types of cushion-top rolls may cause an excess of this waste. A roll that is too rough will make excessive clearer waste; and a roll that is too smooth (or slick) will fail to carry the clearer waste far enough into the stationary top-clearer to prevent eyebrows. Revolving top clearers of proper design and adjustment will largely overcome the danger of clearer waste getting into the work. Waste standards should account for all possible variations.

COMBER WASTE. Some practices at the comber appear to recommend the removal of noils at or very close to set standards and do not consider the presence of long fiber in the noils. This practice is based upon the fact that comber noil itself is a fairly high-priced waste, so that the money loss in good fiber is not believed to be large. However, the loss is there; and one must admit that the value of the long fiber is much greater in the combed sliver than in the noils.

For this reason, some mills on long-staple cotton have found it profitable to reduce card-flat strips and to increase comber noils slightly. This change permitted the retention of the long fibers normally removed by the card in the flat strips. It meant also a full use of the fiber-length selectivity of the comber in the removal of the shorter fibers. A thorough inspection by fiber-length analysis—in addition to the setting up of waste standards—should be undertaken by the combed-yarn mill in order to obtain the best range of settings and practice.

SPINNING WASTE. Scavenger-roll waste from spinning frames is the most valuable reworkable waste in the mill. It is generally exceeded in amount only by the card-lap waste. The amount may vary in different mills from 0.5 to 2.5%. The amount is a good indication of how the spinning is running and how efficient the spinners keep ends up. The causes are many and may extend as far back as the opener room. One of the most frequent causes comes from poorly planned use of reworkable waste in the picker room.

Because of trouble from short lengths of yarn in scavenger-roll waste, some mills bale and sell it. Although mill tests show that some strands of scavenger waste are broken up on the card and removed as card waste, many remain in the sliver. The strands can cause excessive end breakage on roving and spinning frames when running fine numbers.

Roving and scavenger waste should be kept separate in the spinning room. The mills that re-run scavenger waste generally use some type of thread extractor. Both scavenger and roving waste should be run through a waste opener before they are mixed with other reworkable waste.

The manner of re-using waste at the mill can be very important to good spinning conditions. The common practice of running reworkable waste as soon as it is returned to the picker room should be avoided. Each day's reworkable waste should be evenly distributed over a whole day's picker-room production. In many mills, the total amount of reworkable waste will amount to 7 or 8% of the production. If this considerable amount is thrown into production at once, there will be an increase of split

(Continued on page 224)

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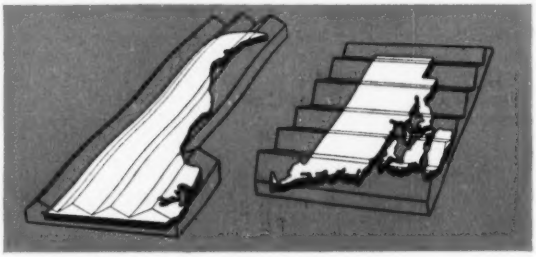

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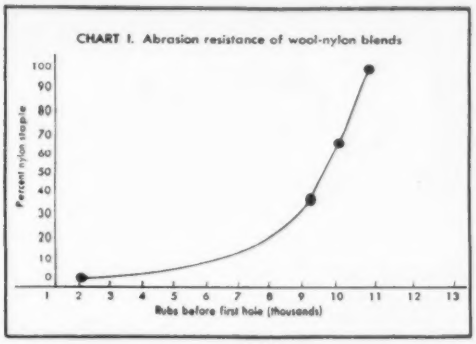
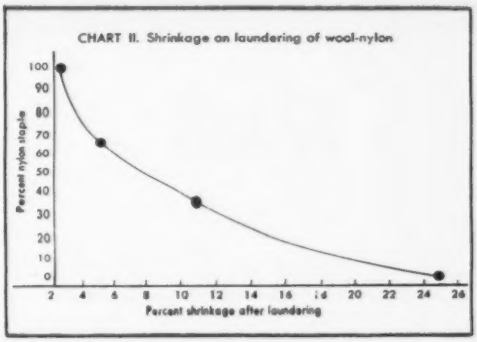


***MOST PRACTICAL AMOUNT** of nylon in wool-nylon socks was about 5 to 8%. Beyond this point, wear did not increase in proportion to the amount of nylon used.*



***SHRINKAGE RESISTANCE** of wool-nylon blends increases almost in direct proportion to amount of nylon. Shrink-resist treatment of wool would permit use of less nylon.*

You Can Overuse Nylon In WOOL BLENDS

***HIGHLIGHTS:** Tests show most practical results in wool-nylon socks with low percentages of nylon — Wear can be increased by use of lower wool qualities — Wool shrink resistance improved by equal single and ply twists.*

By HARRY WIGNALL, A.T.I.
Leicester, England

RECENT TESTS on improving the durability of men's wool-nylon socks have turned up the following conclusions:

1. Use of over 8% staple nylon in a blend will not increase wear of socks in proportion to the amount of nylon used.
2. Socks of coarser wools will wear better and have better shrink resistance than those of fine qualities.
3. Ply twist equal to singles twist produces best shrink resistance.

Tests were conducted by Prof. J. B. Speakman, of Leeds University, Leeds, England, on socks knitted from a wool-nylon blend. Content of nylon staple was varied from 2 to 20%. The curve in Chart I indicates that most practical results are obtained with 5 to 8% nylon staple. When amounts of nylon are increased beyond

(Continued on page 222)

CHART III. Results of another test showing increase in shrinkage as a result of using nylon in blends

Type of sock	Percent nylon staple contents	Percent shrinkage on laundering	No. of rubs before first hole
All wool	0	25	2,100
Wool and nylon staple	35	11.25	9,000
Wool and nylon staple	65	4.5	10,000
All nylon staple	100	0	11,100

(Figures published by Nylon Div., Canadian Industries, Ltd.)

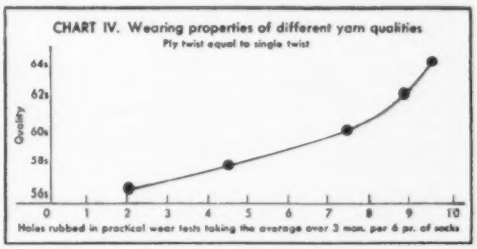
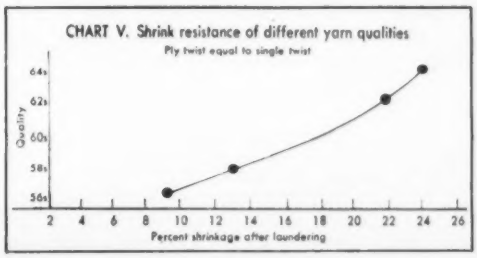
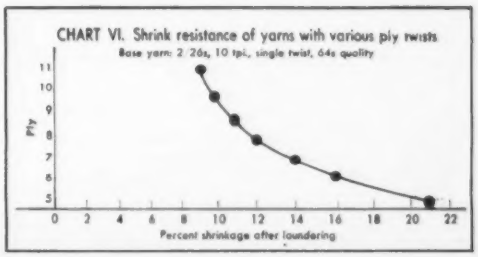
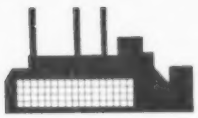


CHART IV. Wearing properties of different yarn qualities
Ply twist equal to single twist
Quality
64s
62s
60s
58s
56s
0 1 2 3 4 5 6 7 8 9 10
Holes rubbed in practical wear tests taking the average over 3 men, pair 6 pr. of socks



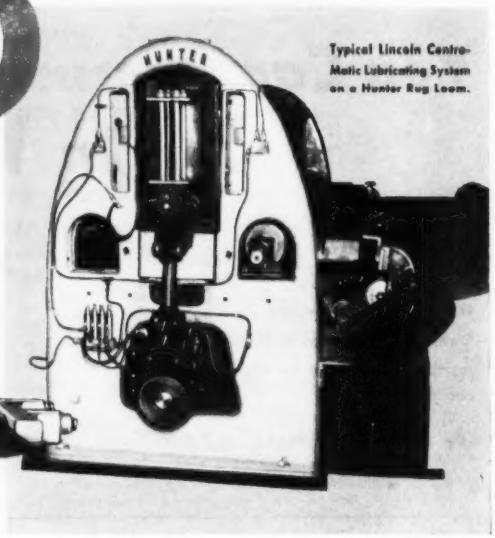


Mass Centralized Lubrication



Management's Key to Greater Yield and Lower Production Costs

Whitin Spinning Frames equipped with a Lincoln Centro-Matic System.



Typical Lincoln Centro-Matic Lubricating System on a Hunter Rug Loom.

Lincoln Centralized Lubrication Systems have been successfully installed on all types of textile machinery, and mill operators report: Savings in lubricant . . . Savings in power . . . Reduced labor costs . . . Longer machine life . . . Less down time . . . Less time out for repairs . . . Practically no bearing failure due to wear—all adding up to greatly increased production of a finer product at a lower cost than ever before.

Investment-wise mill operators are installing Mass Centralized Lubrication—the Lincoln Way—on all machines throughout their mills. Your Lincoln Distributor will gladly give you complete information, or call the Lincoln Sales and Service Office nearest you. Literature on Lincoln Centro-Matic Systems for Mass Lubrication will be sent upon request.

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DETROIT—Lincoln Engineering Co.—Madison 3484

EAST ORANGE—Lincoln Lubricating Systems, Inc.—Orange 3 3188

FORT WORTH—Fritz Keller—7-7211

LOS ANGELES—Lincoln Engineering Co. of Calif.—Richmond 0151

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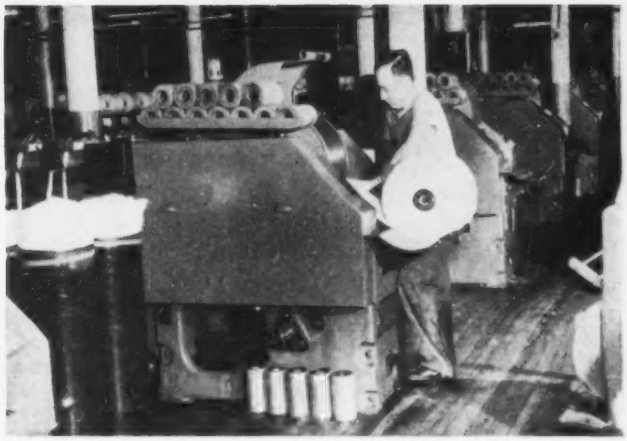
20% MORE COTTON is doffed per roll from a lap winder at Bates Mfg. Co.



SPECIALLY ROUGHENED SURFACE of the Micarta lap roll helps to pick up the lap quickly and prevents slippage as the operator prepares to start the winding operation.

NEW LAP ROLL Holds 20% More Cotton

HIGHLIGHTS: *Micarta lap roll winds 18-lb. cotton lap instead of former 15-lb. lap at Bates Mfg. Co. — Plastic roll weighs 3½ lb., cuts handling effort at lap winders — Special roll surface picks up end of lap quickly at start of winding.*

By PAUL D. EMERY
Plant Manager, Hill Div., Bates Mfg. Co.
and F. P. HUNSICKER

USED ONE YEAR, this wood roll has chipped and splintered to such a degree that it must be discarded.

USED ONE YEAR, this Micarta lap roll shows no sign of wear or deterioration. It can continue in use.

LAP WINDERS PRODUCE 18-lb. laps on the new Micarta lap roll instead of the former 15-lb. laps at Bates Mfg. Co., Lewiston, Me. Each machine formerly wound a 15-lb. cotton lap every 3 min., or about 20 laps per hr. This 15-lb. of cotton, together with a 6½-lb. wood roll, resulted in a gross weight of nearly 22 lb. per lap, a top practical weight for women operators. Hundreds of these laps were handled daily at lap winders, combers, and drawing frames.

With the lighter-weight Micarta lap roll, it is possible to wind three additional pounds of cotton. The 18 lb. of cotton is wound on a 3½-lb. Micarta roll; and the finished lap is still within the 22-lb. limit.

In handling the same number of 22-lb. laps as before, an operator actually handles 20% more cotton. The additional cotton reduces down time on combers and other machines that process the laps, and makes for better efficiency and increased production.

A year's experience at Bates with 1,500 lap rolls made of Micarta has shown that the industrial plastic can be used successfully to produce a lightweight, durable lap roll. These extensive field tests brought to light several features of Micarta lap rolls that make them superior to the wood rolls commonly used.

(*Continued on page 224*)

NO MORE *TIPPY* WOOL

with

ANTHOMINE*

on the job!

IN ALL WOOL DYEING OPERATIONS *ANTHOMINE* INCREASES THE AFFINITY OF WOOL FIBRES FOR DYESTUFFS.

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Mills throughout the country use* ANTHOMINE *for:

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- **Brighter, fuller shades**
- **Quicker, better exhaustion of dyebath**
- **Softer, more pleasing "hand"**
- **Reduced processing time**

Send for Technical Service Bulletin #203-100.2 for complete information, including how to use ANTHOMINE for Top and Yarn Dyeing, Pressure or Package Dyeing, Leveling Unevenly Dyed Yarn or Shady Pieces, Dyeing Metallized Colors, etc.

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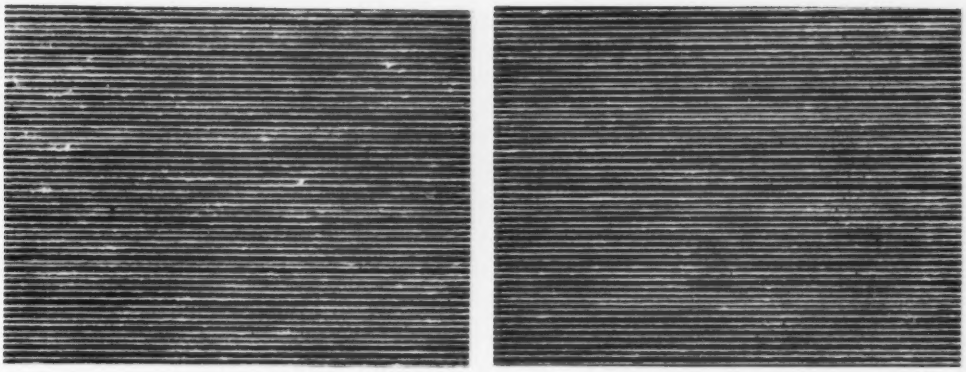


BLACKBOARD wound with California cotton processed at slower speeds than usual show neppiness largely eliminated. The 1 3/16-in. staple on the left is 21s carded; that on the right is 40s combed.

Lower Speeds Give Fewer Neps To CALIFORNIA COTTON

HIGHLIGHTS: *Irrigated staple requires gentler treatment than Upland cotton—More care in ginning can cut down on broken seed-coat particles—Reduced beating and wider settings recommended on pickers—Production off cards should be reduced to 6 to 8 lb. per hr.*

By E. H. HELLIWELL
New England Editor, TEXTILE WORLD

Average of Skein-Break Tests

Average Count	20.79	38.91	50.51	60.24
Average lb. break	113.	54.3	40.1	30.8
Average break factor	2352.	2110.	2025.	1840.

(These break averages are well up to Sheldon's standard for the staple length used.)

How to Process California Cotton

1. Use a minimum of opening and picking:
   - Bypass vertical openers.
   - Lower beater speeds.
   - Increase beater-to-feed-roll settings.
   - Widen grid-bar openings, at greater angle.
   - Close setting of cut-off plate.
2. Reduce card speed to under 8 lb. per hour production.

THERE HAS EXISTED for a period of time among cotton-mill men a general belief that California-grown cotton would not make a yarn sufficiently nep-free for medium and fine counts.

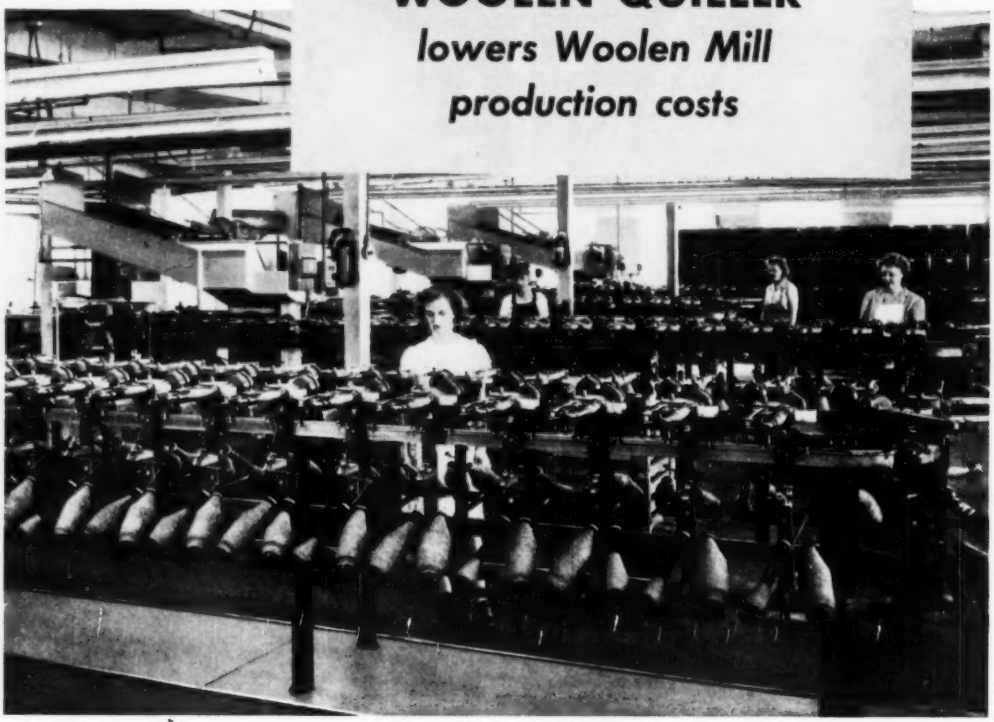
The reason for this belief was the sad experience some northern mills had at one time with some types of California irrigated cotton. Nep counts made on the cotton and processed stock were excessively high. Blackboards wound from the yarn showed a low grade on the yarn appearance standards. Skein tests gave low-break factors in many cases, while end breakage in processing was high.

Former prejudices against certain types of California cotton are now being replaced with an appreciation of the good qualities of the better types now being delivered to the mills. A survey of factors responsible for poor results in the past and for the satisfactory results of today indicate several reasons for the improvement in quality.

Fiber-array diagrams show fiber-length characteristics very similar to Upland cotton of the same classified length. Certain types of California cotton are fine stapled, however, and have a great tendency to nep when processed. Poor ginning in the past was undoubtedly one cause of the excessive neps. Improved ginning practice has now resulted in better preparation.

(Continued on page 212)

How the ABBOTT Automatic WOOLEN QUILLER *lowers Woolen Mill production costs*



THE ABBOTT Automatic Woolen Quiller winds loom bobbins directly from large ring spinning frame bobbins. This procedure saves the cost of intermediate winding and reduces the handling of the yarn.

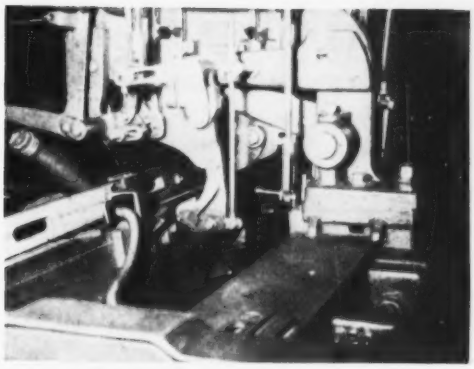
Normal production with an Abbott Automatic Woolen Quiller is approximately 1000 loom bobbins per hour per machine, depending largely on the quality of yarn being used. The number of spindles per Quiller is determined by the yardage on the loom bobbin and regardless of the number of spindles, only one operator is required per Quiller.

WOOLEN MILLS now using large ring spinning, or who contemplate changing to this method, will find it to their advantage to investigate the ABBOTT Automatic Woolen Quiller as a direct means of lowering their production costs.

ABBOTT MACHINE COMPANY

FACTORY AND MAIN OFFICE:
WILTON, NEW HAMPSHIRE

SOUTHERN OFFICE: GREENVILLE, SOUTH CAROLINA



MAGAZINE will not transfer unless shuttle is in proper position.

CHECKING MAGAZINE is best way to prevent bad doffs.

Faulty Picking Motion Can Cause BAD DOFFS

HIGHLIGHTS: *Failure to transfer correctly may cause parts to be broken —Proper size of shuttle is important—Banging off may be warning of something seriously wrong.*

By EUGENE P. SCHREMP
Consulting Editor, TEXTILE WORLD

BAD DOFFS on an automatic loom are caused by the in-going bobbins failing to transfer properly. If the magazine is adjusted properly, the transfer will not take place unless the shuttle is in its proper position. There are motions on the magazine designed to drop the full bobbin into the filling can and lower the transfer dog so that a transfer is not attempted if the shuttle is out of position. Full bobbins in the bobbin can are a warning sign that should not be neglected by the weaver or loom fixer.

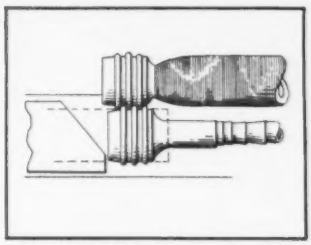
If the condition causing the full bobbins in the can is not corrected, a bad doff may result which may cause broken loom parts, shuttles, bobbins, or a warp smash.

A bad doff may also cause the shuttle to fly out. Usually, a loom gives some warning sign which the weaver should recognize before trouble results. The most common warning signs are loom banging off, filling kinks (which denote too much power or a rebounding shuttle), bobbin transferred holding on only one or two rings, jammed or broken bobbins, or any incomplete transfer. Any of these conditions should be called to the attention of the loomfixer.

Proper sizes of shuttles are very important. Looms operating with shuttles that do not have the proper distance from the clip to the tip will not revoke properly. The height of the shuttle is important. If it is too low, the transfer hammer will have to be set so that it comes down too far. The loom manufacturer will recommend the proper size of shuttles for the different lengths of bobbins, types of looms, and magazines. Filling bobbins wound too large or too close to the bobbin tip will cause the bobbins to catch in the slide and may cause trouble.

PICKING. The picking motion should be set to deliver a soft, early pick. The fact that the loom does not bang off is no guarantee that the shuttle is boxing early enough to transfer properly. The shuttle must be completely boxed so that the tip does not strike the revoker as the lay comes forward.

Faulty picking causes more trouble on automatic looms than most people realize. Moving the picking shoe ahead after the point has worn out is false economy. A hard late pick will usually result. This not only wears out pickers, picker sticks, and related parts, but also causes the magazine to revoke with the resulting chance of a bad doff. If at all possible, picking shoes should be replaced when the point becomes worn.



PROPER POSITION for transferring bobbin is shown in this sketch.

Picking balls should be replaced when a flat spot appears. This will prevent the ball from rolling and prevent not only a weak pick, but also excessive wear on the point of the picker shoe. Running a loom with a cracked picker stick should be avoided. A cracked stick may cause filling kinks as well as an improperly boxed shuttle.

BINDERS. The pressure on the binder at the magazine side should be only sufficient to prevent the shuttle from

(Continued on page 218)

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How the Management Team Can Build Better Human Relations

Your New Authors

▶ Beginning with this issue, the TEXTILE WORLD *Pointers for Supervisors* department will be written by a panel of three industrial-relations experts. The objective in selecting these men has been to bring together opinions from various industry branches and locations. Each man will write the department every third month.

Your new counselors are:

WILLIAM EASTMAN, industrial-relations manager, Bachmann Uxbridge Worsted Corp., Uxbridge, Mass.

JOHN M. SCOTT, Jr., director of industrial relations, Rocky Mount Mills, Rocky Mount, N. C.

MACON P. MILLER, director of industrial and public relations, Fieldcrest Mills, Spray, N. C.

The current installment, written by Mr. Eastman, stresses the need for the textile industry to build better industrial and public relations. In the articles to follow, tried and tested methods used by various companies to attain better relations will be offered. Reader comments are invited in the hope that eventually this page will partly be written by readers who wish to share their experiences in sound industrial and public relations with others.

The department will depart temporarily from the new authorship for the September installment for a message on counseling by supervisors by Hudson Nix, Celanese Corp., Rome, Ga.

INDUSTRIAL-RELATIONS
Programs Should Be Expanded

HIGHLIGHTS: *Present is poor time to cut public- and industrial-relations programs—Good press, community, and personnel relations essential—Anti-free-enterprise propaganda reaching crescendo.*

By WILLIAM EASTMAN

Industrial Relations Manager, Bachman Uxbridge Worsted Corp.

DESPITE OVERWHELMING EVIDENCE to the contrary, many textile mills are beginning once more to regard expenditures for public and industrial relations as expensive luxuries and frills necessary only in times of booming business. These mills are already curtailing activities in these fields under the pinch of decreasing profits and increasing competition.

It becomes increasingly apparent that the men at the head of these companies failed to learn well the lessons of industrial unrest and labor and community difficulties which marked the prewar era and resulted in the loss of a considerable amount of goodwill and confidence. These managers have not learned, either, that the false propaganda spewed out by some of the labor press and missionaries of class hatred and ideologies opposed to our free-enterprise system never ceases. In fact, during times such as we are now experiencing in the textile industry, the propaganda reaches its highest crescendo. Failure to answer, promptly and forcefully, the charges leveled at all business in general and business management in particular allows these false prophets to win by default.

No textile mill, be it large or small, can afford a return to the "public be damned" attitude which contributed so greatly to the defensive position in which management now finds itself. On the other hand, a "wait-and-see" policy is almost as bad because it allows the opposition to be the aggressor.

The only answer is expansion rather than curtailment of public- and industrial-relations programs in an effort to get the industry side of story on the record. The programs should break away from the time-worn debates on what's right and what's wrong with business, the antiquated procedures of "publicity" campaigns. The programs must reach out to the people in the

(*Continued on page 216*)

Pointers FOR SUPERVISORS

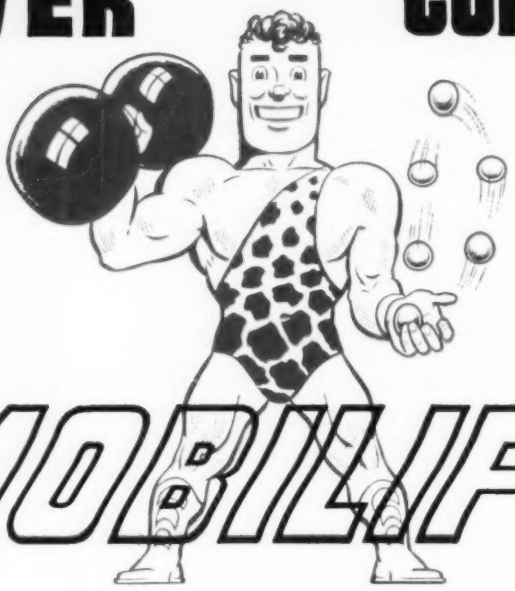
Thank You, Glenn Gardiner

▶ With the July issue of TEXTILE WORLD, Glenn Gardiner, vice president and director of industrial relations, Forstmann Woolen Co., concluded authorship of the Pointers for Supervisors department for the time being. Mr. Gardiner's decision was forced by pressure of other duties.

High popularity of the department and Mr. Gardiner's counsel was indicated in the results of a recent survey of TEXTILE WORLD readers.

Thank you, Glenn Gardiner, for an inspiring and interesting series of messages.

AMPLE POWER + FINGER-TIP CONTROL



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Mobilift has models ranging in capacity from 2000 pounds to 3500 pounds. Yet with ample power to handle such loads, Mobilift is designed for easy finger-tip control. Its tilt, its lift, and its patented disc clutch are all controlled by easy-working levers located together at convenient finger-tip level. Mobilift has no gears to shift, making it the most maneuverable of all lift trucks. These facts add up to ample load-carrying ability plus unusual speed of operation—more trips per hour, more tons of materials moved per day.

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Round Table

FOR EXCHANGE OF IDEAS—*The Round Table is open to letters from any and all readers discussing subjects relating to mill management, production, engineering, technology, etc. Names of contributors will be held confidential if so requested, but contributions must be signed with real name and address as evidence of good faith and to permit payment for items published. Address contributions to: Editor Round Table,* TEXTILE WORLD, *330 West 42nd St., New York 18, N. Y. Write your message on card in Reader-Service Department if you wish.*

40% of Dust Found To Be Combustible

A plant in North Carolina "got religion" on dust collectors because it wanted to put new boilers in the boiler house located right in the center of the plant doing dyeing and finishing. Spreader stokers appealed to them for various reasons. Somewhat dubiously, they bought dust collectors and ran across this interesting point.

The collected dust is recirculated to the furnace. In doubt of the value of this procedure, the mill management had us analyze a sample of the collected dust for combustible. We found approximately 40% combustible which could well increase the boiler efficiency from 1 to 3%.

The collecting efficiency is decidedly over 90% which means that a dust collector can really be an eleemosynary proposition. This mill contributed to my family's welfare fund but likewise received blessings in the form of fuel savings and freedoom from dust problems in the dye house.

Now, I don't believe you fellows have been horsing around all of these textile plants these many years without learning that re-runs and off-shades cost a few bucks now and then. But do you reckon that the dyer at this plant I have just mentioned realizes what a boy-scout deed we did for him. Maybe we often bark up a dry pine when the answer is right at the end of our nose. (*R-483, Charlotte, N. C.*)

A Blow at Technical Nonsense

We all learn to read and write at some time or another. But when we read some statements in text books, it appears to me that probably we should just concentrate on learning to read. Also what not to read in the technical nonsense that floods the country.

Referring to roving-frame winding, etc., one text states, "the winding is done by a compounded speed." Now, you do have a compound connection but not a compounded speed. Compound means a union. Next you read in the same text that you have two separate speeds during the winding. Therefore, there is no union. When the mill man knows the difference in those statements, he knows that the fixed gear on the driving shaft gives no aid to the cones and that the cone belt is the pivot point that should receive his most careful attention.

Next you read that metallic rolls are positive rolls and that 1-in. cotton should receive 37 blows to the inch on the picker. Now, one of these statements is wrong and the other is misleading to the conscientious reader who looks for something to help him learn the mill business. Maybe they both come from the mistaken idea among some writers that they can give you a technical "blueprint" on how to run your job.

What's wrong? First, every carder ought to know that metallic rolls are not positive. If he doesn't know that fact and understand it, how can he think properly on the problem of adjusting his machinery so that he can produce a more perfect web between the front roll and calendar roll on the draw frame?

Now, take a look at the fixed prescription that 1-in. cotton has got to have 37 blows per in. If the young carder starts with that premise, he must ignore such factors as draft, etc., on the picker which have much to do with the number of blows per in. He

(*Continued on page 178*)

TEXTILE TICKLES . . . . . *By Edgar Allen, Jr.*

"I don't see why it's taking you all day, Pendleton, to inspect one pair of nylons!"

Why you can't afford to REPLACE— ....When you can REBUILD!

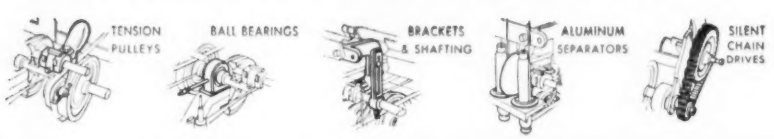
TO KEEP UP in today's highly competitive market, textile products must be competitive *both* in quality and price. This means that quality and output must both be raised while production costs are lowered, to meet the demands of a returning buyer's market.

Many mills hesitate to make a capital investment for new machinery at present high costs. Many of them have solved this problem by rebuilding and modernizing their present frames with *Meadows Modernizers* at a small part of the cost of new equipment.

The cast iron frame work of a spinning or twisting machine never wears out. If your present frames have sufficient width of gauge to accommodate the size ring that would be the most efficient for the yarn numbers that you want to produce, they can be completely rebuilt to put them in a competitive position with new frames. Even if they are narrow-gauge, production can be materially increased by the use of longer spindles, oversize rings, separator shields, as well as tape-driven, ball-bearing pulleys.

Put your spinning frame modernization problems up to us. We can convert your band driven or tape driven frames, for improved quality and increased production. We engineer and service each installation, manufacture all parts, and will be glad to have our representative give you a cost estimate on your frames without obligation, in their respective territories. More than 8 million spindles are today turning out more and better yarn through being equipped with Meadows Ball Bearing Tension Pulleys, and other accessories.

MEADOWS MODERNIZERS



MEADOWS MANUFACTURING COMPANY • ATLANTA, GEORGIA

Representatives: JAMES P. COLEMAN, P. O. Box 1351, Greenville, South Carolina • WALTER S. COLEMAN, P. O. Box 722, Salisbury, North Carolina • MATTHEWS EQUIPMENT COMPANY, 93-A Broadway, Providence, Rhode Island
R. L. HOLLOWAY, Atlanta, Georgia

Slashing and Weaving Explored by TOE

(*Continued from page 119*)

straps hold the pickers in the center of the lays.

The only trouble encountered was:

1. Two or three straps had bumps in them when they were bought. These straps failed quickly.

2. Fixers had to be trained to keep checks on both sides of the loom exactly the same.

3. There are a few more flags from shuttles boxing.

Q. Have you found any difference in the loom hours per shuttle?

A.: None yet. We run light goods, and our shuttle life is quite long.

Dallas Mfg. Co., Huntsville, had an average strap life of 928 loom hours with conventional straps in 1941. The endless-strap life in 1943 was 3,155 loom hours; in 1944, it was 2,886 hr.

The cots of an endless strap was given as 2.06 times the cost of a conventional strap. The saving in 1943 was about 40% of what conventional straps would have cost. In 1944, the saving was about 34%.

The endless straps cause better boxing and fewer flags.

Opp Cotton Mill, Opp, has 400 X and X-2 looms equipped with endless check straps. It also reported better boxing and fewer transfer breaks. Production is slightly better because of the reduced flags.

QUILLED FILLING. Mount Vernon-Woodberry Mills has five filling quillers in operation. Advantages of requilling filling over spinning yarn directly on quills were given as follows:

1. It takes a batteryhand 14.8% less time to handle a bobbin of quiller filling.

2. There is a small saving in spinning, winding, and quilling over spinning alone, since larger spinning packages can be used and less doffing is required.

3. There may be a little better weaving as a result of the larger package of filling reducing the number of filling transfers.

4. Quiller plate and cam gives better control of filling bunch on quill than the spinning frame gives.

Q.: What are your yarn numbers?

A.: 2½s to 5s, spun on 3½-in. rings.

Q.: Have you tried running finer numbers on the quillers?

A.: No. Our quillers are not long enough. We don't have enough spindles to tie them up with fine yarn.

Q.: What twist multiplier do you use on the yarn you quill?

A.: 3.25 to 3.40.

Q.: What type of bobbin wind do you use on the large spinning rings?

A.: Combination build, with non-sloughing cams.

Q.: Is the yarn any cleaner than direct-spun yarn?

A.: Very little. The slub catchers on the winder may do a little cleaning. There are no slub catchers on the quillers.

FRICTION-GEAR BREAKAGE. Several mills reported trouble with crankshaft and friction-gear breakage on X-model looms when the looms have been running several years. Some of them have corrected the troubles; some have not.

One mill reported: We have some 30-, 36-, and 40-in. looms about 12 or 13 years old. We had none of this trouble until recently. Our newer X and X-2 looms are not giving any trouble.

We increased the width of the friction gear ½ in. That helped.

Another mill reported: We have X-2 looms that are ten years old. One of them strips occasionally. Usually, the damage is caused by the nut on the motor being loose and letting the drive get out of line.

Q.: What size gears do you use?

A.: The pinion has 17 teeth; the friction gear about 153 teeth.

Another mill reported: We had some of this trouble and solved it by putting on cast-iron brackets to hold the motors in gear.

We also changed over some of our loom drives from gears to belts. We put short-center, flat-belt drives on ten looms. They've been running three months.

Results are good. The looms pick lighter; so we should have less trouble with mispicks. These ten looms have increased 1 to 2% in production. There is no variation in the number of picks. And fixers say they have only half as many breakdowns because the looms run smoother.

Q.: What's your motor speed?

A.: 1,750 r.p.m.

Q.: What's your loom speed?

A.: 154 p.p.m.

Q.: What kind of change did you make?

A.: We were changing 40-in. looms to 50-in. XD with dobbies, and while we were at it we decided to try the new drive. We reworked the looms and put on new motors. The motors are swung almost on the floor. We use 2½-in. belts, with counter pulley between the motor and the loom.

Q.: Do you think it would pay to change over all your looms?

A.: Don't know yet.

Rocky Mount Pilot Plant

(*Continued from page 111*)

charge of Miss Mildred Lee, registered nurse. A Bausch & Lomb Ortho-Rater has been installed recently, following instruction courses given to John Scott and Miss Lee at Purdue University. An additional first-aid clinic is being built.

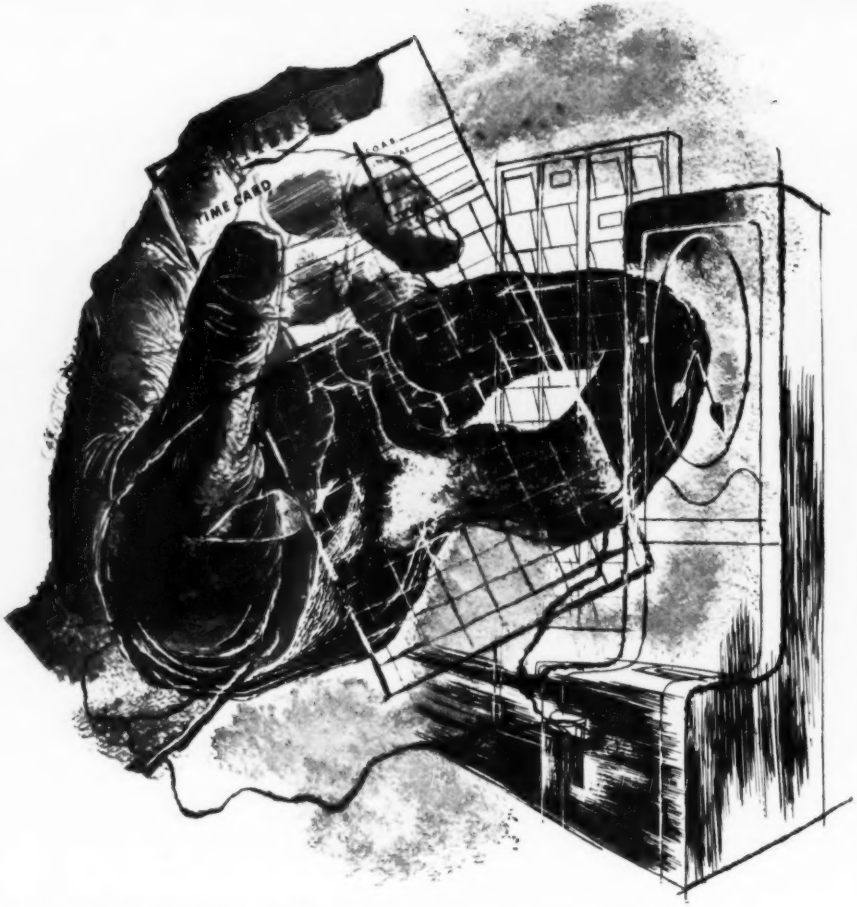
Complete equipment for safety and training classes are provided. In charge of Frank Hay, the training course is for supervisors and managerial prospects. The pilot room is also used for technical instruction.

CAFETERIA. A new $25,000 cafeteria has been provided by additions to an old building. It is 30x50 ft., with a porch and seats in front, and was designed by Thomas B. Herman, of Rocky Mount, from suggestions by Vincent P. Molloy, cafeteria manager. Approximately 400 of the mills 800 employees are served during each of three shifts. The cafeteria's balanced meals succeed candies, cakes, and pies formerly sold in a canteen.

The cafeteria's attractive interior is painted in two-toned light chocolate. The floor is red tile. Twenty-five chromium tables, with chrome and leatherette chairs, seat 74 at a time. The counter has framed plate glass containing pastries and salads, an Amcoin coffee urn, and a Wyott self-refrigerating cream dispenser. A special dual-purpose stainless-steel refrigerator, with Bush refrigeration, occupies part of the partition between the service counter and kitchen.

The kitchen is red-tile floored, with cream-tile walls. Equipment includes a 3-part Garland gas range, two Super-Chef french-fry stoves, Blakeslee bread mixer, maple-topped tables and meat block, a Stetney vegetable peeler, a Hot Point slicer, two Nelson refrigerators, a Hot Point meat grinder, and a glass washer. Partitioned paper plates and paper cups for hot drinks eliminate dish washing. This cafeteria operates without profit and has received the highest grade for sanitation from the Rocky Mount public health department.

The modernization of the Rocky Mount Mills has been under direct supervision of W. J. Laughridge, superintendent, who came with the mills in 1939; of George Morgan, Jr., construction superintendent; and A. D. Abernethy, superintendent of machine maintenance.



Is this PROFIT THIEF on your payroll?

He's a slick operator. He's at work on machines in plants all over the country retarding production, eating away at profits, costing industry enormous amounts that *can* be saved!

Not in *your* plant, you say? Why not have a look? Today!

Are you still scooping grease from drums to guns with antiquated paddles? There's your profit thief at work—wasting time, wasting grease, risking dirt and contamination.

You can save 3¾ man hours for every 100 lbs. of grease.

Are you lubricating machines by hand—the old, time-wasting, risky, hit-or-miss method?

You can save up to 23.9 man hours in *applying* each 100 lbs. of grease.

Are you paying the price of "down-time" and lost precision for lack of the right grease at the right time?

You can make lubrication foolproof—make sure every bearing gets the right grease in measured amounts every time—even lubricate hundreds of bearings from one central point—while machines continue to produce.

How about it? Is this profit thief loose in *your* plant—on *your* payroll?

His label is "faulty, old-time, costly lubrication methods." Methods that are adding staggering sums to the already high cost of production.

There's one proven way to stop this loss.

An Alemite representative can tell you in 10 minutes how Alemite Methods will simplify and better organize your lubrication procedures. He can show you how mechanized lubrication from barrel-to-bearing will increase your production and profits.

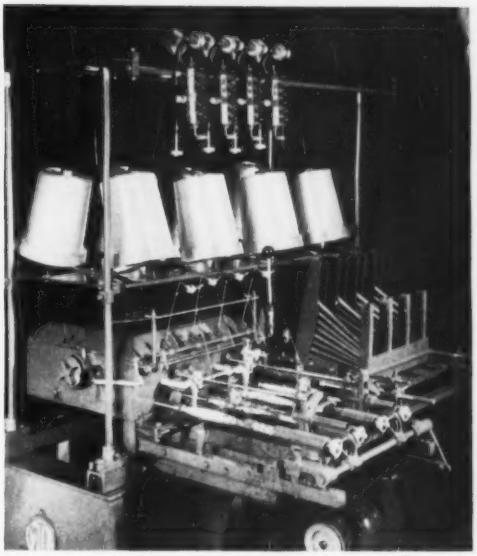
Telephone your local Alemite distributor—or write to Alemite, 1888 Diversey Parkway, Chicago 14, Illinois.

ALEMITE

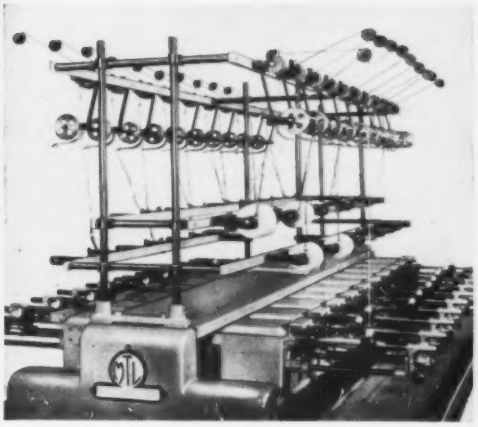
MODERN LUBRICATION METHODS THAT CUT PRODUCTION COSTS

Another Product of STEWART WARNER

TEXTILE Equipment NEWS



AUTOMATIC FILLING WINDER to be produced by Foster Machine Co. will be called the Foster-Muschamp Autofill. It winds cotton, wool, synthetics, and jute.



SEMI-AUTOMATIC FILLING WINDER, the Foster-Muschamp Fillwinder, features slow start, positive layer locking, and speeds in excess of 6,000 rpm. It is supplied spindleless or with spindle.

Three Filling Winders To Be Produced By Foster

A range of filling-winding machines, automatic and semi-automatic, are to be manufactured and sold by Foster Machine Co., Westfield, Mass., following an arrangement between Foster and Muschamp Taylor Ltd., of Manchester, England.

Foster will produce the whole range of Muschamp-Taylor winders. They will be known as its Foster-Muschamp machines and will be added to the Foster cone- and tube-winding line. Foster will immediately begin selling and servicing Muschamp-Taylor filling winders and will stock parts for them. Meanwhile, production lines will be set up for manufacture in Westfield.

The following filling-winding machines, shortly to be placed on display in Westfield, will be in the Foster-Muschamp line: the Autofill, the Fillwinder, and the Superfill. These three are forerunners of other machines under consideration.

The Autofill is a 4-spindle automatic winder usually supplied in gangs of 20 to 40 spindles. Each 4-spindle unit has one automatic control, one bunch builder, one diameter-control mechanism, one traverse cam, one layer-locking device, and one bobbin-length sizing mechanism.

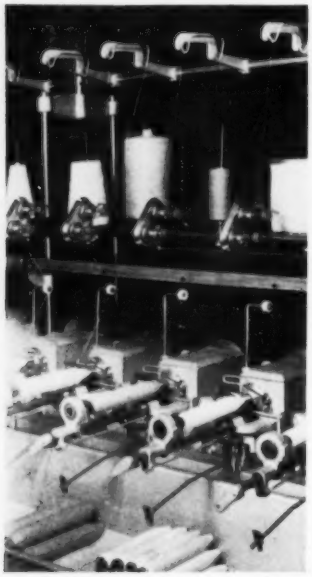
The Autofill, being controlled in units of four spindles, has been found a flexible automatic winder in mills running a variety of yarns. It will wind any type filling bobbin, tube, or quill from 3 in. to 9 in. long (a heavier machine winds up to 14 in.). The machine is designed for winding cotton, wool, synthetics, or other textile fibers.

Spindle speeds in excess of 6,000 rpm. are claimed. On fine rayons, up to 160 spindles can be tended by one operator. The Autofill has no feeler wheel; the bobbin diameter is controlled mechanically. The bunch builder can be set for any yardage up to 15 yd. in units of 20 in. Spindles can be run in either direction.

The Fillwinder is the second Foster-Muschamp machine to be produced. It is an individual-spindle, high-speed filling winder built in units of 20 spindles. Each spindle is a unit. The machine is supplied with spindles, or "spindleless," the latter being the modern method of winding bobbins. It is equipped with or without bunch builders for making yarn reserve in conjunction with automatic looms.

Although the machine is capable of speeds in excess of 6,000 rpm., it has a slow start, which is essential in the winding of filament rayon.

The introduction of a new 6-point cam makes it possible to have a positive layer locking of the yarn to reduce sloughing while weaving. One revolution of the new cam gives three movements of the traverse; and as the length of each movement differs, the cam produces the same effect as that given by what is commonly known as an auxiliary differential movement. The cam inside the spindle box rotates at one-third



SUPERFILL WINDER runs dense coreless-filling packages of cotton, spun rayon, wool, or jute. It will be built in the U. S. by Foster Machine Co.

the speed compared to normal construction where a cam revolves once with each complete movement of the traverse.

Individual spindle boxes are used to prevent the necessity of stopping a complete 20-spindle machine for any adjustment or repairs; only one spindle need be stopped. It can be detached without interfering with the running of the rest of the machine.

The Fillwinder incorporates a new type three-speed V-belt drive which gives three ranges of speeds: 2,000, 2,500, and 3,000 rpm.; 3,000, 3,700, and 4,500 rpm.; 4,000, 5,000, and 6,000 rpm. It is not necessary to change any pulleys when changing from one speed to another within each range.

There are five standard traverses from 1-3/16 in. to 2 in. The wind or crossing ratio can be adjusted to give 5½, 7, 11, or 22 wind.

The diameter of the filling bobbin is controlled by the feeler-wheel and traverse-bar system. Several types of yarn guides are available. Diameters from ⅜ in. to 1⅜ in. are standard. The length of the filling can be varied from 6 in. to 9½ in.

Different creels are available to wind over-end from cones, cheeses, or bobbins; to wind by unrolling from flanged bobbins and cheeses; or to wind from skeins.

The Superfill is the third Foster-Muschamp machine to be produced. It is a high-speed single-spindle filling winder designed to produce coreless filling yarn. The filling is wound extremely hard, and it is claimed that a Superfill package can contain two or three times as much yarn as is normal on direct-spun filling bobbins.

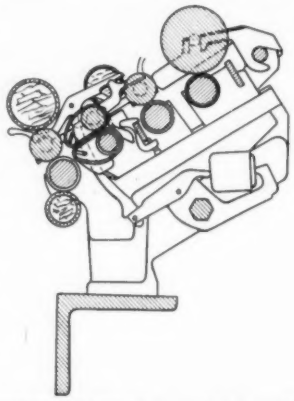
Superfill packages are used in non-automatic looms and in automatic shuttle-changing looms.

While the yarn is wound onto a bare spindle, a pressure roller makes possible production of an extremely dense package. It is also possible to use a base which is also known as a cop bottom. The base is used in a regular bobbin-type shuttle.

The machine is built in individual spindles, each spindle representing a complete unit. The standard machine is in units of 20, 40, and 60 spindles. Various types of supply equipment permit winding over-end from cones, cheeses, or spinning bobbins, or winding by unrolling from flanged bobbins, cheeses, or skeins. Package diameter is easily adjusted up to a maximum of 1⅞ in.; the length is adjustable up to 10 in. Winding speed is over 500 ft. per min. The machine will wind cotton, linen, spun rayon, blends, jute, and wool in both fine and coarse counts.

To request further information please use the card on page C of the Reader-Service dept.; refer to T-78.

Higher-Draft Casablancas System Offered by H & B



HIGHER DRAFTS than previously possible are said to be within the capability of the new Casablancas E10B system.

A new type of Casablancas drafting system, the E10B, is now available on spinning frames made by H & B American Machine Co., Pawtucket, R. I. The new system is said to permit drafts about twice as high as Casablancas systems previously available on American equipment.

The E10B system consists of four lines of rollers; the drafts are zoned. Two pairs of drafting rollers in the back zone perform the initial draft of from 1.5 to 3. Following this drafting is a drafting zone where the fibers are regrouped by a special condenser which is loosely attached to the middle traverse rod and which guides the roving into the nip of the aprons. In the front zone is the Casablancas apparatus. Here drafts may be 10 to 30, according to working conditions.

All four lines of rollers are saddle-weighted by means of combined saddle and a single-weight hook. This hook has been so designed that the front top roller can be removed if required without releasing the pressure from the second and third top rollers. The feature of being able to unweight all three lines by a simple upward movement at the front has been retained. This arrangement insures the constant feed of the drafted roving right up to the front roller.

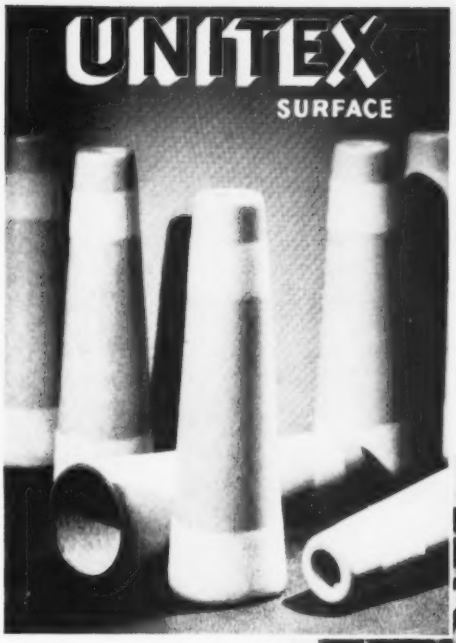
To request further information, please use the card on page C of the Reader-Service dept.; refer to T-52.

Sandwich Blends Made Automatically

A new automatic sandwich-blending unit, the G-S blending system, developed by Saco-Lowell Shops, 60 Batterymarch St., Boston, Mass., is described in the latest issue of *Saco-Lowell Bulletin*. The system eliminates manual labor for making sandwich blends, considered one of the most effective methods of blending fibers before carding.

The system consists of a group of F-5 rayon feeders which deliver components of the blend in accordance with stated proportions. A No. 6 fan with a special wheel takes stock from the feed table and delivers it to a No. 6 air filter. The filter, minus its bag, forms the loose and separated fibers into a mat of uniform composition on the screen of the filter. The mat emerges from the delivery roll in a comparatively thin sheet laid on the apron at the bottom of a receiver. This receiver is moved slowly forward and backward alternately by a mechanism consisting of a wire rope and an automatic-reversing windlass. Each traverse of the receiver adds a layer of stock to the sandwich being built on the apron.

The traversing is continued until the stock completely fills the receiver. When the receiver is full, the sandwich, consisting of the thin layers placed in the receiver, is transferred



New—

SONOCO *Cone Surface*

For Low Twist Fine Filament Yarns—

Paper Carriers For Every Textile Need

Continuous laboratory research, seeking a more perfect cone surface, particularly as desirable for fine filament, low twist, synthetic yarns, has resulted in UNITEX—a flocked surface—applied to a smooth finished cone, either banded, as illustrated, or solid, if required.

SONOCO 50th ANNIVERSARY YEAR SERVES THE WORLD

SONOCO PRODUCTS COMPANY

BRANTFORD ONT. | HARTSVILLE S. C. | MYSTIC CONN.

DEPENDABLE SOURCE OF SUPPLY

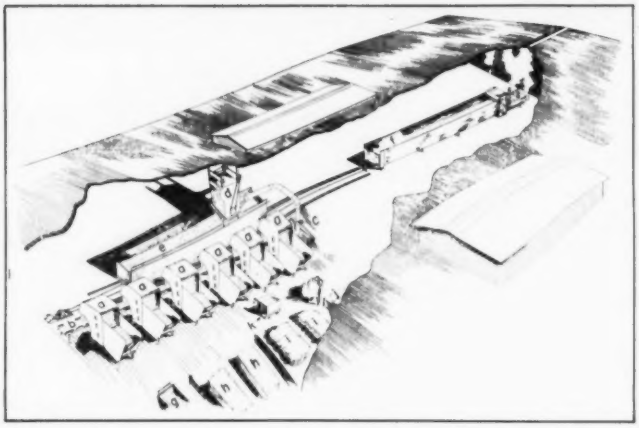
to a sandwich feeder. This transfer is effected by locking the receiver with its load to the sandwich mixer. The apron in the bottom of the receiver is then put in motion to transfer its load to the apron in the sandwich feeder. As soon as the transfer has been effected, the receiver is returned to its original position under the No. 6 air filter.

When the device is in its place under the air filter, a new batch can be started. The rapidity with which the load can be transferred from receiver to the sandwich feeder are said to make this blending system, for all practical purposes, a continuous one.

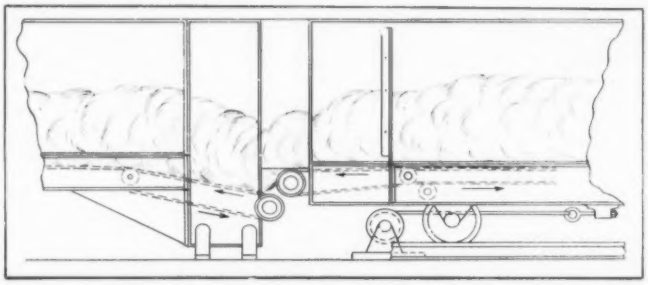
The sandwich feeder consists of a compartment formed by high steel sides and a movable apron for the bottom. At the feed end of the box is an upright apron with strong, heavy pins. The sandwich is pressed against these pins by the forward movement of the apron, causing a removal of stock across the entire face of the sandwich in a uniform manner. Stock retained by the pins is stripped off by a doffer on the opposite side of the doffer box for delivery to a bin, conveyor pipe, or a baler. A tinting device can be attached to the doffer box.

The only function of the operator is to keep the hoppers properly loaded. The manpower required per unit is said to be quite conservative; one man can operate two systems at 1,200 lb. per unit per hour.

To request further information, please use the card on page C of the Reader-Service dept.; refer to T-51.



SANDWICH BLENDS are made automatically by the G-S system. Feeders a deliver stock to feed table b which in turn delivers to fan c. Fan blows stock to filter d which deposits uniform mat in traversing receiver e. When receiver is full, stock is transferred by aprons to sandwich feeder f.



TRANSFER OF STOCK from receiver to sandwich feeder is accomplished by aprons in both. Apron of the receiver overlaps that of sandwich feeder during transfer.

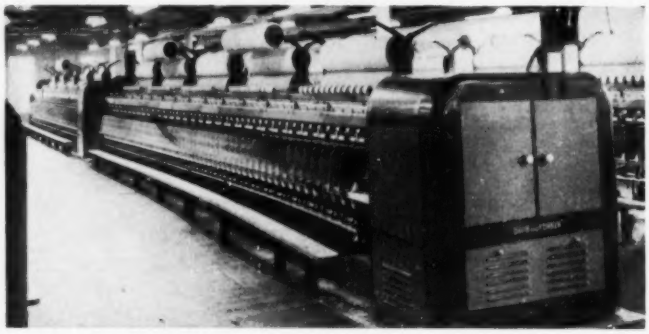
Spinning Frame Features Simple, Efficient Design

Wool spinning frames, Simplex Model F, recently introduced by Davis & Furber Machine Co., North Andover, Mass., are now at work in a number of mills. Their performance, on various kinds of work, is said to be satisfactory in every detail.

Simplicity of design, a reduction in the number of parts, and easy removal of parts for repair or replacement are major features. Main change gears are conveniently located in the head end and the roving-spool change gear in the foot end. Only 19 change gears are needed for the entire range of twists and yarn sizes. Change gears are interchangeable for all drives, a feature which greatly reduces the number of different change gears required.

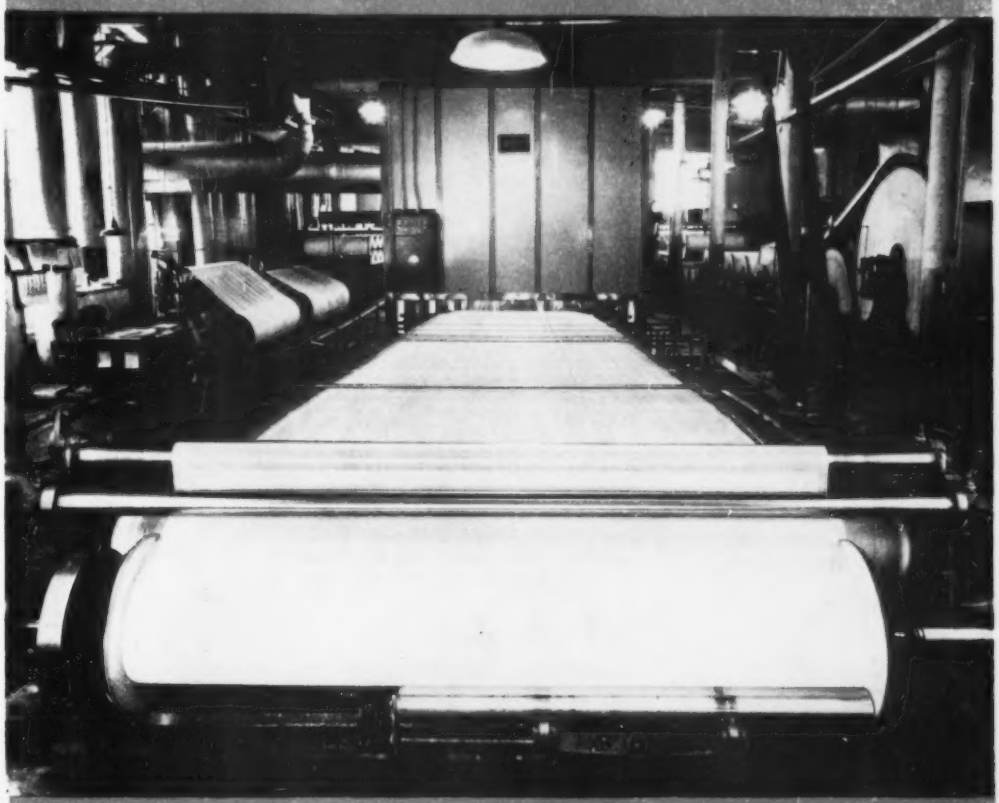
Special attention has been given to lubrication. It is said that the labor cost for lubrication has been reduced, all danger of oil-stained yarn has been removed, and oil dripping on floor and other troubles from neglected lubrication have been overcome. One-shot lubrication systems are installed in head and foot ends, oilless bearings are used on roll stands and twister-tube stands. Anti-friction bearings on main-cylinder and tube-cylinder are said to need lubrication only twice a year.

Standard equipment includes Eadie self-lubricated rings, but other types may be supplied if preferred. The



GREATER PRODUCTION, LOWER COSTS, increased safety, and neater appearance are claimed for improved model spinning franme.

A Report on Uxbridge "Gentle-Air" at DOMINION*



1 10,000 ends without rolling

2 Triples drying speed of cylinder machines

3 "Gentle-Air" is fully insulated—less loss of heat—better working conditions

4 No Flat Yarn . . .

5 Wet splitting—less tearing

*Dominion Textile Company, Limited
SHERBROOKE BRANCH

BACHMANN UXBRIDGE WORSTED CORP.
UXBRIDGE, MASSACHUSETTS

More warps and Better warps

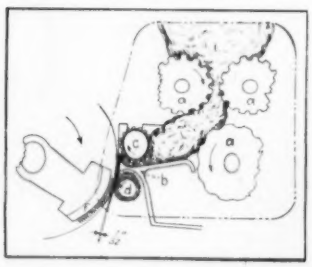
driving motor, mounted on base at head end, is fitted with a multigroove V-belt drive and a prelubricated Mercury-type clutch. Twister tubes and spindles are driven by quadruple roller chains. Changes may be made in either drive without disturbance of the other. The direction of twist may easily be reversed. The taping arrangement is simple, with only one cylinder and three prelubricated tape sheaves that require no attention for five years or more.

Uniform traverse of the spindle rails is said to be assured by the design and location of guide rods and cradle bars.

Several safety features are embodied. Safety locks on doors prevent opening doors while frame is running or starting with doors open. The elimination of bottom step rails provides ample room for blowing or sweeping under frame. Step boards are attached to sampsons with no lag screws required for fastening to the floor. The frame stops automatically when the bobbins are full, and an automatic gear motor returns the builder to starting position.

To request further information, please use the card on page C of the Reader-Service dept.; refer to T-75.

Fringe Roll Improves Picker-Lap Uniformity



NEW FRINGE ROLL forces bottom layer of sheet leaving feed rolls into path of beater, eliminating bunches caused by uneven picking action.

An improvement in the uniformity of picker laps is said to result from installation of a new "fringe roll" developed by Saco-Lowell Shops, 60 Batterymarch St., Boston, Mass. The fringe roll is a wire-wound roll which is installed under the bottom feed roll or under the nose of the evener pedal before each beater. Distance from the beater to the wire surface is $\frac{1}{2}$ in. Points of the wire face upward; the roll revolves in the same direction as the beater. As the beater picks the sheet of cotton emerging from the feed rolls, the bottom layer or fringe is forced into contact with the fringe roll which carries the fringe of stock into the beater, insuring that it receives the picking action.

Tests had shown that previous laps lacked uniformity in size of tufts and in type of stock on each face of the laps. This lack of uniformity was believed largely responsible for split-lap troubles.

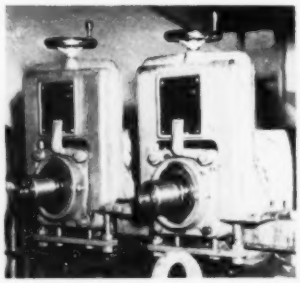
The cause found was that only the upper surface of the sheet delivered to the beaters was subjected to the picking action. The action on the upper side of the sheet was said to create a fringe of stock on the underside of the sheet. This fringe attained considerable length and became detached as a mass, not in divided tufts. These lumps and bunches, being heavier, generally went to the bottom screen while the finely separated fibers went to the top screen.

The new fringe roll, in effect, extends the picking zone and is said to insure that the fibers on the underside are subjected to the beater action. Laps produced are said to be uniform in appearance on each side, and less tendency for laps to split is claimed. No fiber damage can result, the company states.

The fringe roll can be applied to existing pickers with little difficulty.

To request further information, please use the card on page C of the Reader-Service dept.; refer to T-53.

Regulator Adjusts Slasher-Roll Weight



UNIFORM WEIGHT across the squeeze roll results in better slashing.

Proper roll alignment and correct roll pressures in slashing are said to result from use of a new pressure regulator developed by Norcross Corp., Watertown 72, Mass. The pressure regulator is compact and can be mounted on any type size box. The unit is of rugged construction and has dust-proof and moisture-resistant sealed-type ball bearings. Pressures are controlled by spring-loaded ball-bearing units mounted on the ends of each squeeze rod.

The regulators can be easily adjusted to maintain the proper uniform pressure for any type of warp being processed. No compressed air or other accessories, such as pressure air valves, are required. Correct pressure is applied mechanically. Pressure is regulated by rotating a single handwheel until the desired amount is indicated on large, easy-to-read scale.

Advantages claimed are:

1. Better weaving because of undamaged fibers with uniform size content and thorough size penetration. Correct squeeze-roll pressure for the particular warp being processed is maintained continually.

2. Increased slasher speed because excess moisture normally carried in the warp is removed.

3. A decrease in yarn sticking to cylinders because excess surface size has been removed.

4. Proper alignment of rolls because the pressure regulators keep squeeze rolls in permanent correct alignment, resulting in uniform pressure across the warps.

5. Elimination of roll bouncing.

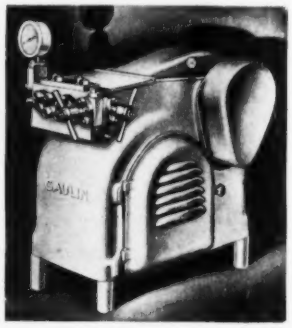
6. Variation of weight across the warp if desired. Adjustment of pressure may be necessary to compensate for variables such as non-uniform blanket conditions or unequal drying.

7. Lower size cost because excess size normally carried on the surface of the warps is removed and left in the size box.

To request further information, please use the card on page C of the Reader-Service dept.; refer to T-55.

Two-Stage Homogenizer Improves Warp Size

Reduction in the amount of starch used, time required for cooking, and temperature necessary for cooking are



COMPACT HOMOGENIZER is used to produce sizing mixtures of more uniform viscosity.

More economical maintenance... More efficient heating!

with the self-cleaning

TEXTILE THERMOLIER

Incorporating all the features that have made the standard THERMOLIER a leader, the new TEXTILE THERMOLIER banishes the problem of clogging and loss of heating capacity, and cuts cleaning to almost nothing.

TEXTILE THERMOLIER proved its superiority in this actual spinning room test. A conventional unit heater clogged solid in four days . . . its heating capacity was lost as clogging increased. Finally it had to be shut down for a prolonged cleaning period. After three weeks of operation, TEXTILE THERMOLIER showed negligible accumulation . . . it was quickly cleaned with an air hose.

Cutaway view of heating element showing unobstructed air flow passages (drawn to exact scale)

- Free flow of air self-cleans the heating surfaces. Lint, fly and dirt sweep clean from horizontal trailing edge.
- Maximum capacity provided at all times and annoying and destructive water hammer eliminated because built-in pitch of tubes and internal cooling leg assure continuous drainage of condensate.
- Safety and durability assured with leak-proof tube-to-header construction.
- Plain thermostatic trap, the simplest and least expensive kind of trap, made practical because of Thermolier's exclusive internal cooling leg. Write for the full story.

99 YEARS PIPING

GRINNELL

Grinnell Company, Inc., Providence 1, Rhode Island. Branches: Atlanta • Buffalo • Charlotte • Chicago • Cleveland • Cranston • Fresno • Kansas City • Houston • Long Beach • Los Angeles • Milwaukee • Minneapolis • New York • Oakland • Philadelphia • Sacramento • St. Louis • St. Paul • San Francisco • Seattle • Spokane

some advantages claimed for the Gaulin two-stage homogenizer, manufactured by Manton-Gaulin Mfg. Co., Inc., Everett, Mass.

Homogenization is a simple mechanical process with no chemical action or change involved. Size is converted by high pressure, shearing action, velocity, and impact into a smooth mixture of uniform viscosity. No major changes in machine layout are required. The installation of homogenizers can be made with little interruption of regular production, the company states.

Mills using the homogenizer in the preparation of starch size have reported a great improvement over size prepared by conventional cooking methods. Use of homogenizers is said to be more economical and to produce a more uniform size with increased control of penetration and less shedding of size on looms.

The standard type of size kettle may be used for homogenized size. However, instead of bringing size to 212° F., it is heated only to about 180° F. or to the swelling point of the starch. This lower heat accounts for a large saving in heating cost and cooking time. When the swelling point has been reached, the heat is shut off and the size mixture is pumped through the homogenizer and then into either the size box or the storage kettle. Starch need not be held at high temperatures for long periods.

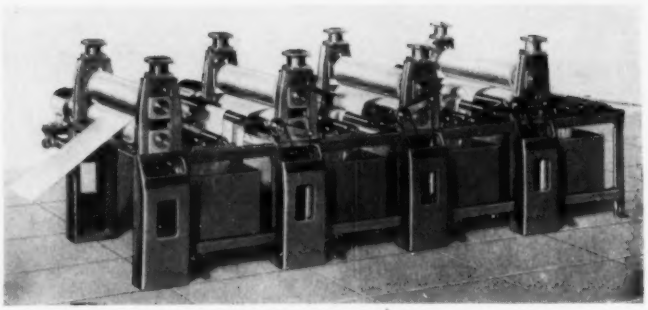
Tests reported from one mill show increased yarn strength, reduced warp-end breakage, and increased production on looms run with a homogenized size mixture on warp yarn.

To request further information, please use the card on page C of the Reader-Service dept.; refer to T-54.

Compartment Washer Features Flexibility

A new, high-speed compartment washer has been developed by H. W. Butterworth & Sons Co., Philadelphia. The washer is a unit-construction machine which can be furnished with any number of compartments. This unit-type construction is said to make the new washer highly flexible. The unit can be used in range operation; synchronized with other finishing machinery; or operated independently on washing, processing, or dyeing.

The new machine is designed to operate faster than previous compartment washers, handling goods thoroughly and efficiently during washing operations. Different weights of cloth can be run through the washer without "scrimping in" or damaging the goods, the company states. Compensating rolls in each compartment have individual drives to control speed and tension during washing operations.



FLEXIBILITY OF APPLICATION is said to be an outstanding feature of this new compartment washer.

Among the features included in the new compartment washer are sturdy, streamlined, Meehanite-iron construction; adjustable controls for pressure at each nip; automatic pressure release; mechanism for holding squeeze rolls apart when machine is not operating; stainless-steel liquor boxes; protected electrical equipment; foot-operated valves for quick discharge of liquor.

To request further information, please use the card on page C of the Reader-Service dept.; refer to T-57.

Automatic Screen Printer Runs 260 to 300 Yd. per Hr.

A new, automatic screen-printing machine said to print fabric continuously at 260 to 300 yd. per hr. is being manufactured by Pioneer Screen Printers Ltd., East Kent Works, Henson Rd., Ramsgate, Kent, England.

Prints produced are said to consume a minimum of color and to emerge from the machine completely dry. Prints are also said to be indistinguishable from a hand-screen-printed effort. Since the operation is entirely mechanical, a repeat precision of 1/5000th of an inch is said to be obtained.

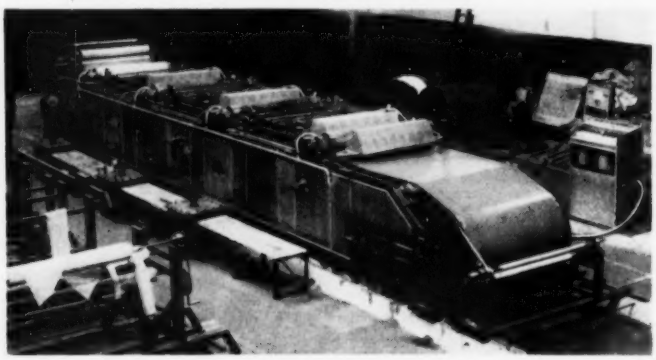
The present machine prints in three colors, but machines operating on the same principle can be built to print in any number of colors—it is only a matter of incorporating the requisite number of printing and drying units.

Dimensions of the three-color machine are 31 ft., 6 in. long and 6 ft., 10 in. wide.

To request further information, please use the card on page C of the Reader-Service dept.; refer to T-59.

Lixator Brine Producer Improved

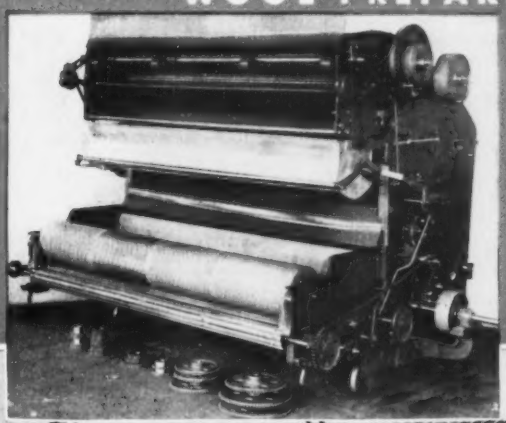
A new model Lixate rock-salt dissolver that features several major improvements over the previous type has been developed by International Salt Co., Inc., Scranton, Pa. The new Lixator, called the Sterling



UNIT DESIGN of this automatic screen-printing machine permits use of a large number of colors and high-speed production.

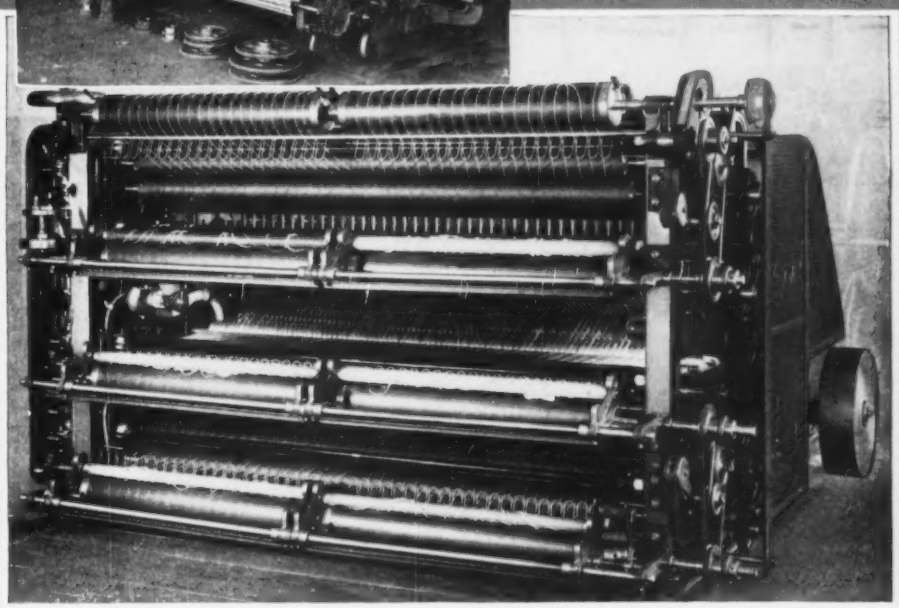
Duesberg-Bosson

WOOL PREPARING MACHINERY



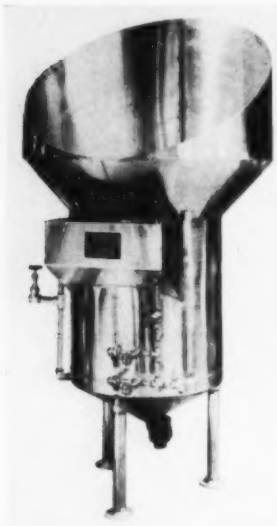
AUTOMATIC CARD FEEDER
With sensitive weighing device, which prevents overweighing of stock in scale pans.

TAPE CONDENSER
Single apron type. Extremely high efficiency; suitable for condensing all types of fibre.



We make WOOLEN CARDS with two, three and four cylinders, for Fine, Medium and Carpet Wools• Patented PERALTA Machine•OILING DEVICE • MIXING PICKER (Fearnaught Type) • PICKER FEEDERS • AUTOMATIC CARD FEEDERS • TAPE CONDENSERS • INTERMEDIATE CENTER DRAW BROAD BAND FEED.

Duesberg-Bosson of America, Inc.
FITCHBURG, MASSACHUSETTS



IMPROVED LIXATOR has pipe legs and better flushing system.

Model, is made of durable stainless steel. In addition, the unit has structural changes designed to make it easier to use than the previous model.

One major improvement in the Sterling Model is the 2-in. pipe legs furnished in short lengths so that the unit will be as low as possible to the floor to permit easier filling with rock salt. Height of the Lixator may be easily changed to suit rearrangement of other equipment by attaching different lengths of 2-in. pipe to the couplings at the bottom of the Lixator.

Another improvement is elimination of the nozzle at the extreme bottom of the previous Detroit Model Lixator. The new model has two nozzles located within the unit for flushing water. The new design is said to simplify the periodic task of cleaning the interior of the dissolving tank of its rock-salt filter bed and of the insoluble particles that have been filtered out of the brine.

To request further information, please use the card on page C of the Reader-Service dept.; refer to T-56.

Dye Jig Operation Automatically Controlled

Completely automatic control of the dye jig is the purpose of a new electrical attachment developed by F. Smith and Co. (Whitworth) Ltd., of England, and which will be marketed in the U. S. by B. F. Perkins & Son, Holyoke, Mass.

Once the control has been set, the jig will give the predetermined number of runs of the cloth through the dye liquor, reversing automatically at the end of each run. After completing the set number of runs, the unit will switch itself off.

In the control panel of the device are switches which control whether the jig is run automatically or manually; two switches which give a "left" or "right" start according to which way the cloth will wind on its first run through, and a master stop switch. There are also controls for the reversing of the cloth and for the number of runs. These are so arranged that any time during the process the operator can see how many runs remain to be completed.

To secure a constant cloth speed through the dye liquor, a special mechanism is fitted which drives the draw rollers through differential gearing at varying speeds related to the changing of the rollers.

All mechanical gearing of the machine—which is electrically driven and controlled—is totally inclosed and runs in an oil bath. Transmission gearing throughout is fitted with ball bearings, the mechanism being designed to give a smooth and almost tensionless run to the cloth.

To request further information, please use the card on page C of the Reader-Service dept.; refer to T-58.

All-Stainless-Steel Reed Eliminates Rust Damage

An all-stainless-steel line of reeds to be marketed under the name Ultra, has been developed by Steel Heddle Mfg. Co., Philadelphia, Pa.

All parts used in the manufacture of the reeds are made of rust-resisting stainless quality steel. Stainless parts include not only the dent wire, but springs, bands, and ends. If tube adapters are to be used, tubes are also made of stainless steel so that all chance of contamination from contact with rust can be eliminated.

The finish of the new Sted-Hed-Co all-stainless-steel reeds, said to be mirror-like, decreases the possibility of dust collection while in operation.

To request further information, please use the card on page C of the Reader-Service dept.; refer to T-77.

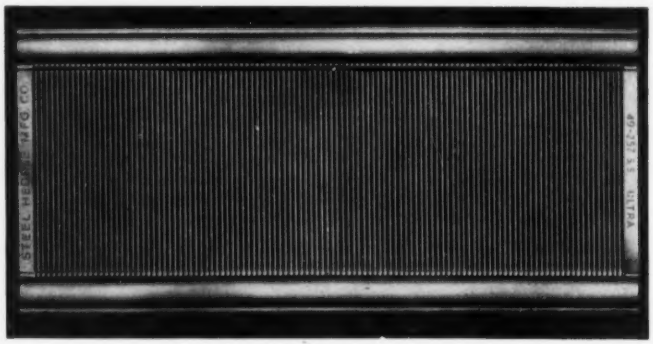
Guide Life Now Increased 30 Times

NEW ALSIMAG GUIDES with greater durability slip into curved fingers of guides for mounting on machines.

New winder and redraw guides made of AlSiMag are being introduced by American Lava Corp., Chattanooga, Tenn. The guides have been on actual test in several mills for many months and are said to show no signs of wear. The longest test has been sixteen months. The guides are running on fine-denier nylon.

The corporation stated that the AlSiMag guides are slightly higher in first cost but they have, in tests, given thirty times as much service; therefore the cost per pound of yarn processed showed better than a 95% saving in total guide cost.

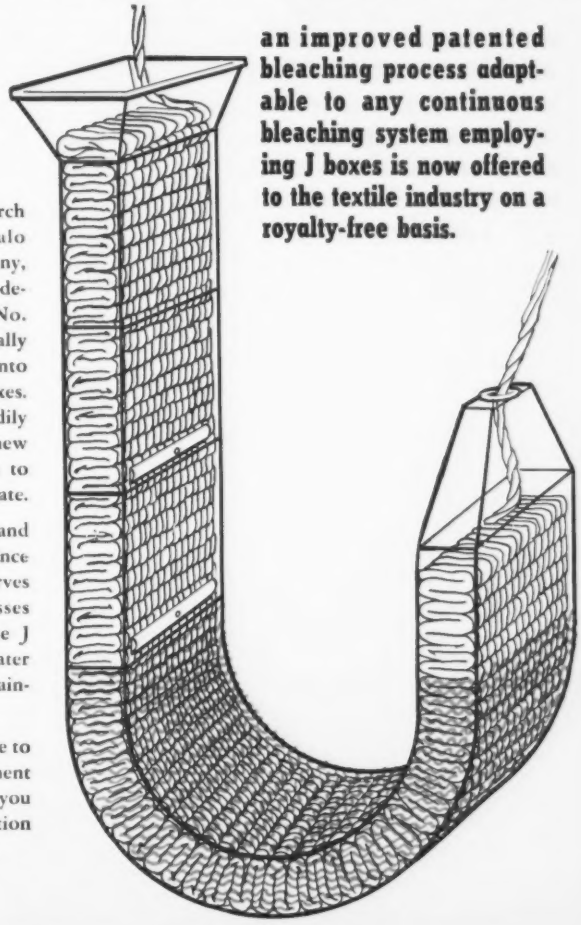
The new AlSiMag guide is offered as a guide alone or as a guide with a holder of anodized aluminum. The guide can be easily mounted on the



ALL PARTS of this new reed are of stainless steel, completely eliminating the possibility of of rust damage.

ATTENTION Textile Bleachers...

an improved patented bleaching process adaptable to any continuous bleaching system employing J boxes is now offered to the textile industry on a royalty-free basis.



● Developed in the research laboratories of the Buffalo Electro-Chemical Company, Inc., this new method is described in U. S. Patent No. 2,391,905. It consists basically of introducing hot water into the curved section of J boxes. Existing J boxes can be readily converted to utilize the new system. It is both simple to install and simple to operate.

Advantages include easier and more thorough washing. Since the water in the J box serves as a lubricant, cloth passes more freely through the J boxes. Moreover, the water helps maintain a clean stainless-steel surface.

For full details, please write to us. Our technical department will be glad to provide you with a complete explanation of this *wet-J-box* process.

BECCO SALES CORPORATION

AGENTS FOR BUFFALO ELECTRO-CHEMICAL COMPANY, INC.

BUFFALO 7, NEW YORK

New York Boston Philadelphia Chicago Charlotte

frames of Fletchel, Sipp-Eastwood, or Atwood winders and redraw machines. An oblong screw slot permits ready adjustment and positioning.

The AlSiMag guide slips into curved fingers of the holder. These fingers are curved or bowed slightly to form a spring tension on the slots on the outer sides of the inserted guides. The guides may be pulled out for cleaning and slipped back into position easily. The holder may also be removed easily for cleaning.

Guides are hard, homogeneous, and dimensionally accurate, the company states. They are furnished in either high-polish or satin finish. The guides are furnished in AlSiMag 192, a nonconductor of electricity; or in AlSiMag 193, a conductor of electricity, for dissipating static. Guides can be used for processing synthetic yarns, woolen, worsted, high-twist cotton, or any abrasive fiber.

To request further information, please use the card on page C of the Reader-Service dept.; refer to T-60.

Gloves Conditioned In 15-Min. Period

A new machine for conditioning gloves before "laving-off" is now being produced by Air-Perme-Ator Mfg. Co., 300 Preakness Ave., Paterson 2, N. J. Gloves to be conditioned are placed in trays which are inserted in the cabinet for about 15 min. Highly saturated humid air is blown from each side of the cabinet in alternating cycles of 30 sec. each, giving all gloves an even regain. Upon removal from the machine, gloves can be pressed and packaged immediately, as no further drying is required.

The machine is equipped with ten trays; each holds approximately 3 doz. short or 2 doz. long pairs of gloves. Total loading capacity is 20 to 30 doz. pr. of gloves at a time. Ten additional trays can be furnished to be used alternately, if desired.

The lower part of the conditioner is of galvanized sheet metal. The top, and all parts where humid air is circulated, is made of stainless steel.

The unit is powered by a ¼-hp. motor.

A bottom tray is provided for emergency overflow and for draining off stale water.

Dimensions of the cabinet are 58 x 57 x 27½ in.

To request further information, please use the card on page C of the Reader-Service dept.; refer to T-68.

Flat-Bed Seamer Handles Bulky Seams

A new machine for flat-bed seaming, designated as Type 1101, with two needles and two loopers for producing two rows of the double-locked chainstitch (federal stitch type 401), has been developed by Wilcox & Gibbs Sewing Machine Co., New York, N. Y.

The machine, designed primarily for sleeve setting in shirts, pajamas, dresses, etc., can also be profitably used for two-needle lap seam felling operations on garments made from many different grades of material.

A newly designed compensating foot, with flexible heel and toe principles for crossing bulky-seams, is constructed with yielding sides which permit instant changes from light- to medium-weight fabrics without adjustments or interchange of parts.

A BUILT-IN LUBRICATION SYSTEM operates automatically, eliminates manual oiling.

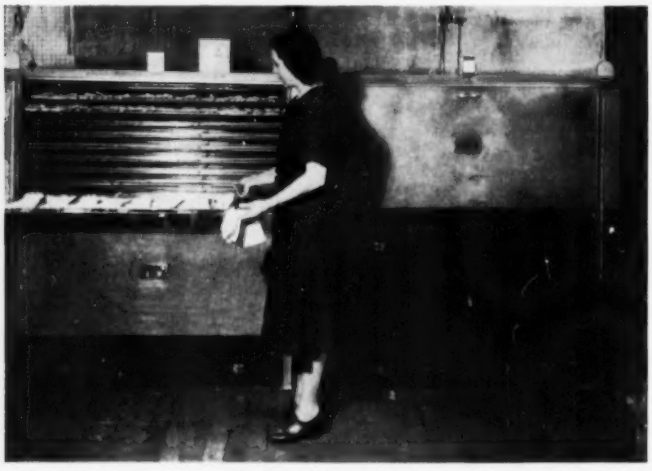
A unique lubrication system is semi-automatic in principle but completely automatic when the machine is in operation. The system is of the reservoir type; filtered oil is fed to each bearing by capillary action through oil wicks. Manual oiling is not required.

Accurate margin control is assured with the "needles-in-line" set-up. The thread-handling means is located at a convenient point in front of the machine, with all threads inclosed in newly-designed guides to prevent whipping or snarling as the threads pass through at high speed. Unnecessary tread breakage is said to be eliminated.

A new type of internal belt drive uses a belt made of a special composition and reinforced with steel wire.

Another feature is a completely new type of arm shaft. Encased in a rigid, eccentric sleeve bearing, the shaft is said virtually to eliminate vibration and to assure smooth, quiet operation.

To request further information, please use the card on page C of the Reader-Service dept.; refer to T-64.

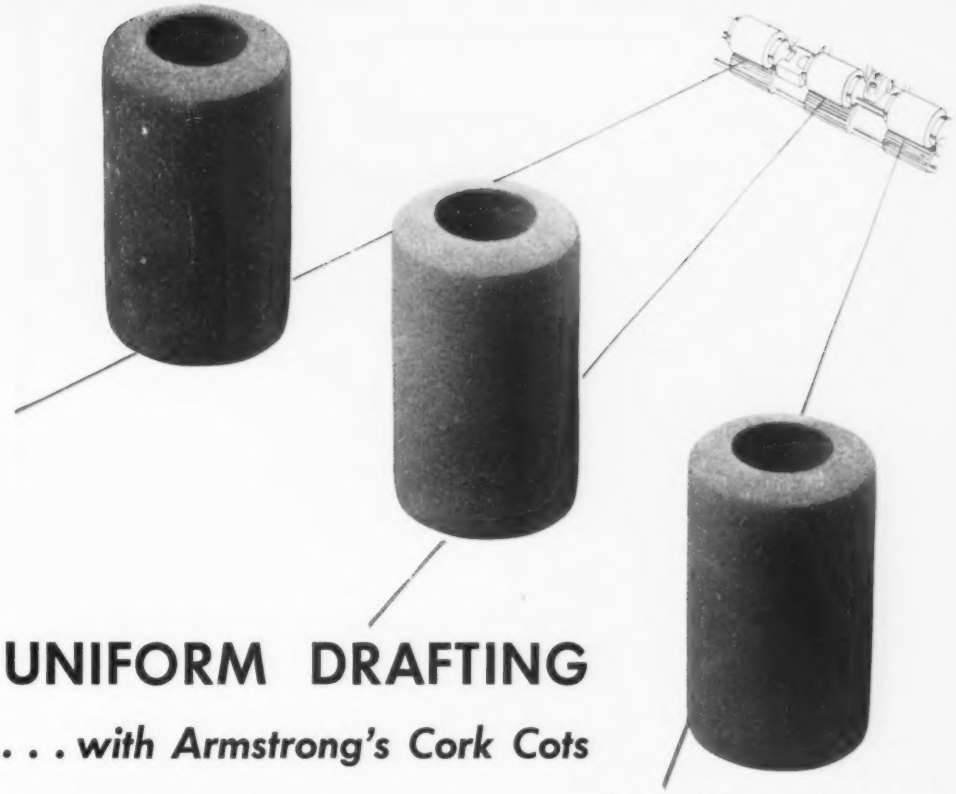


AIR IS BLOWN across glove trays alternately from each side of the cabinet at 30-sec intervals, conditioning them in 15 min.

Italian Worsted-Spinning Machinery Available In U.S.

A new line of Italian worsted-manufacturing machinery, including mixing machines, intersecting gill boxes, porcupine drawing frames, spinning frames, and twisters, is now available in the U. S. from Rostan Machinery & Equipment Co., 75 West St., New York 6, N. Y. Machinery is made by Officino Meccanichecigardi Soc. An.

1. The intersecting gill box, of standard design, is built with two, three, four, or five heads, with a 560 mm. ratch and 225 or 560-mm spacing between the heads. The machine may be furnished either with a standard creel, with cans, or with a jack-type creel. Each head has a set of



UNIFORM DRAFTING

. . . with Armstrong's Cork Cots

You get uniform drafting with Armstrong's Cork Cots on your frames because of the unique structure of cork. Millions of cork cells on the surface of every cork cot act like tiny suction cups. They grip fibers firmly and evenly. Hence they draft a uniform yarn.

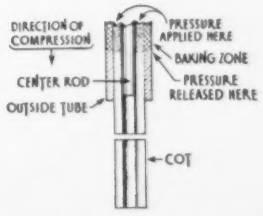
This high friction surface eliminates eyebrowing, too. Loose fibers are packed well back on the clearers. Thus less clearer picking is necessary, and the number of slubs is reduced. Work runs cleaner, too, because Armstrong's Cork Cots reduce waste as much as 50%.

The cellular structure of cork also gives Armstrong's Cork Cots springlike compressibility, so they recover quickly from laps and hard ends. They won't flow under weighting or flatten during shutdowns.

Cork cots are low in first cost. And their long initial life can be extended three or four times by rebuffing.

Ask your Armstrong representative for samples, prices, and additional information. Or write Armstrong Cork Company, Textile Products Dept., 8308 Arch Street, Lancaster, Pa. Available for export.

EXTRUSION PROCESS PRODUCES SEAMLESS CORK COTS



Armstrong's Cork Cots have no structural weakness to cause premature breakdown. Each cot is uniform in density from inside to outside, from end to end. Each compresses evenly, spins stronger, more uniform yarn.

Better running work . . . more poundage

ARMSTRONG'S CORK COTS

ACCOTEX COTS • ACCOTEX APRONS

39 fallers studded with pins of 17, 18, or 19-gage wire. Fallers have a setover of 235 mm. and can deliver a sliver of 25 gm. per meter, two slivers of 12 gm. per meter, or four slivers of 6 gm. per meter, each. The machine is adapted to processing worsted after combing and backwashing and in the first three draftings.

The delivery is of the double draft-shaft type (30 and 60 mm.), with rubber-covered pressure rolls. The entire mechanism is mounted on ball bearings. The machine is equipped with a length indicator connected to an automatic stop motion.

The Italian concern also builds gill boxes with four, six, eight, ten, or twelve heads, with single faller sets. The ratch is either 450 or 520 mm. In the 450-mm. model, setover of the fallers is 220 mm., and only a single bobbin with double sliver is used. In the 520-mm. model, the fallers have a double set of pins, each with a 100 mm. setover, and two bobbins per head, each being fed a double sliver. The machine has ball-bearing-mounted pressure rolls. False twist is inserted in the roving by rubbing between two leather aprons. The drive of the bobbin carrier is by a special train of worm wheels instead of the rack-and-pinion-type drive. The creel may be of the horizontal-drum or the vertical-bobbin type.

Of the 26 fallers of each head, 18 are said to be in continuous contact with the roving. Fallers are of the Piel type, which allows a nipper setting very close to the pins.

The machines may be run at a rate of 600 to 650 faller drops per min., and may attain a draft of 9. The fallers usually have pins of 19-, 20-, or 21-gage wire. Delivery rate is about 25 to 30 m. per min.

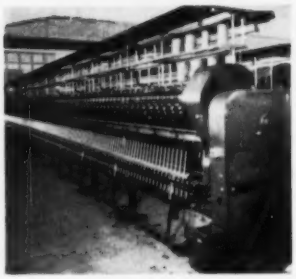
2. Three different types of porcupine and winder drawing frames are available, with 15, 20, or 25 heads, two bobbins per head, and two slivers per bobbin.

The width of the porcupine pins is 72 to 82 mm., and usually are of 25-, 26-, 27-, or 28-gage wire. The general construction of this machine is similar to that of the gill box in many respects, so that many parts are directly interchangeable. The drive of the bobbin carrier in all models is by a train of worm wheels. The machine has a single draft shaft and two carrier shafts, in addition to the input shaft. The creel is the vertical type.

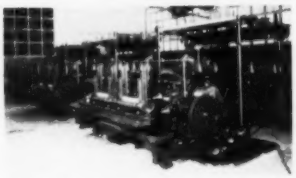
3. The ring spinning frame has 400 spindles with 75 mm. spacing and a ring of 50-mm. diameter. The rise of the frame is 220, 240, 260 mm. The warp frame has 300 spindles with 90 mm. spacing and a ring of 62-mm. diameter. Spindles are driven in groups of four by tape drives with tension units mounted on ball bearings. The machines are designed for high draft and make use of tensioned leather aprons. The draft pressure rolls are mounted on ball bearings. Each side has individual drive.

4. Two twisters are available: one with 400 spindles spaced 75 mm. apart, with a ring of 50-mm. diameter; and one with 300 spindles, spaced at 90 mm. with a ring of 62-mm. diameter. The drive is independent on each side. Each spindle is provided with automatic stop motion which operates when an end breaks. The spindles, in groups of four, have tape drive with tension units mounted on ball bearings.

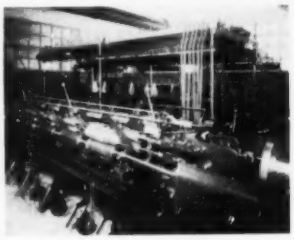
To request further information, please use the card on page C of the Reader-Service dept.; refer to T-76.



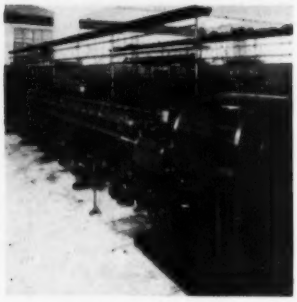
RING SPINNING FRAME has long-draft system using leather aprons.



INTERSECTING GILL BOX makes free use of ball bearings in its construction.

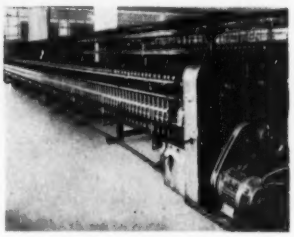


GILL BOXES are available with four to twelve heads.



PORCUPINE DRAWING FRAME has construction similar to gill box; many parts are interchangeable.

ALL MOVING PARTS of the mixing machine are ball-bearing mounted.



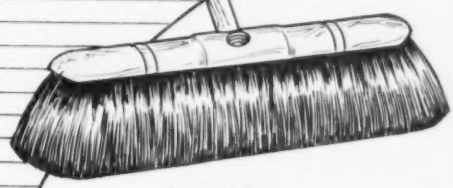
TWISTERS are available in two types.

Instrument Checks Water Purity

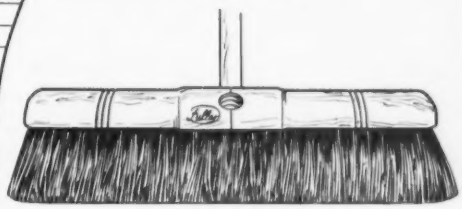
A new method of measuring and indicating the purity of water or steam by means of electrical conductance has been developed by E. F. Drew & Co., Inc., 15 E. 26th St., New York 10, N. Y.

Usually the instrument consists of (1) a conductance cell through which the sample solution under question is passed, (2) a controller by which the actual conductance can be observed and by which the desired limit of conductance is set, and (3) an alarm assembly consisting of a bell, and a red

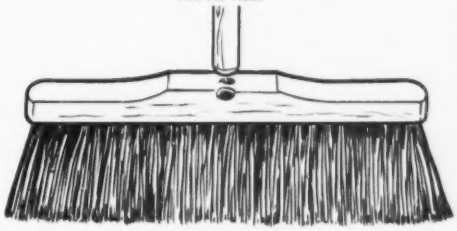
(*Continued on page 165*)



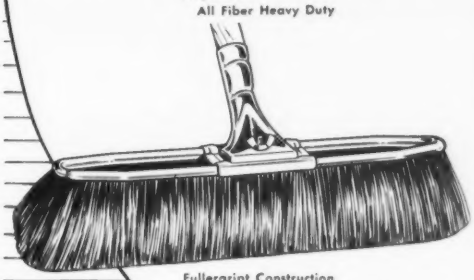
Cement Set Type
Bristle, Nylon and mixtures



Staple Set Type
All Hair, Hair and Fiber
and All Fiber



Stap'e Set
All Fiber Heavy Duty



Fullergript Construction
Hair and Fiber and All Fiber

FOR ECONOMICAL SWEEPING

Fuller

FLOOR BRUSHES

For smooth, polished floors... for rough, concrete floors... and for every type floor in between... Fuller has a floor brush especially built to give long, efficient service. A variety of styles... a variety of brush materials... in sizes from 12" to 42". With the Fuller brush ... most efficient on a particular job... you bring down your costs for floor sweeping.

Phone your local Fuller Branch Office or write

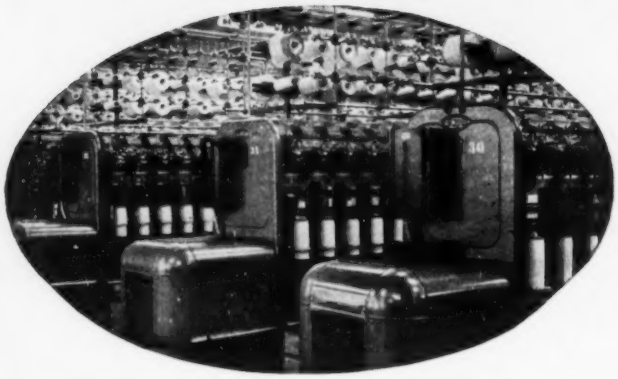
The FULLER BRUSH CO.

INDUSTRIAL DIVISION · 3594 MAIN ST. HARTFORD 2, CONN.

IN CANADA: FULLER BRUSH COMPANY, LTD., HAMILTON, ONTARIO

VERNEY CORP.

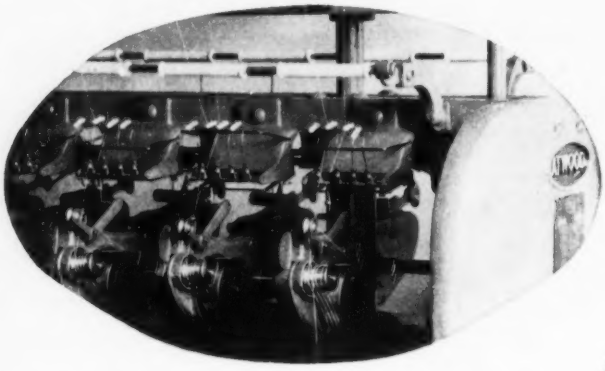
TWISTS SPUN RAYON ON MODEL 10'S



Twister bobbins of spun rayon, that are uniform from bobbin to bobbin and from spindle to spindle, are produced by The Verney Corp., Brunswick, Maine, on Atwood Model 10 Ring Twisters. These are the all-purpose ring twisters with automatic stop motions for each end and each ply.

UNIFORM TWIST

IS GUARANTEED BY SEVERAL ATWOOD FEATURES



Mounting of supply creel to provide free delivery . . . accurate control of tension . . . constant yarn speed delivered by *feed rolls* . . . smooth traverse of ring holder rail . . . rigid mounting of rings and ring holders . . . and use of one endless, lapless belt to give uniform speed from spindle to spindle . . . all contribute to accurate and uniform control of twist on the Model 10.

UNIVERSAL WINDING COMPANY

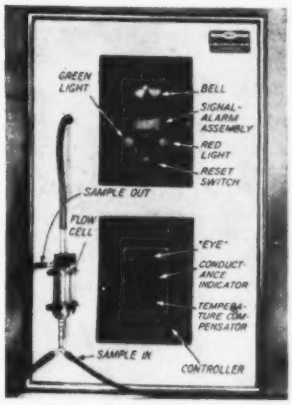
ATWOOD DIVISION

Providence, Boston, Philadelphia, Utica, Charlotte, Atlanta, Chicago, Los Angeles; Montreal, Hamilton, Canada; Manchester, England; Paris, France; Basle, Switzerland
Agents in every principal textile center throughout the world

Winding and Twisting Machinery for Natural and Synthetic Yarns

Model 10 *automatic stop motion for each end and ply*

(Continued from page 162)



***ELECTRICAL CONDUCTANCE** is used by this instrument to measure and indicate purity of aqueous solutions.*

and a green light. In operation, the green light is on; the red light and the bell are off until the set conductance value is exceeded. Then the red light comes on and the bell rings. Ringing will continue as long as the conductance is exceeded. The bell can be stopped by pushing a button. The red light will stay on as long as the conductance exceeds the set value. When the conductance decreases below the set value, the instrument automatically resets itself, and the green light comes on and stays on as long as the conductance stays below the set value.

To request further information, please use the card on page C of the Reader-Service dept.; refer to T-70.

Tape Eliminates Sewing, Has Other Uses

Faster production, lower costs, and less waste have been reported by a number of mills as a result of new production techniques involving tape produced by Minnesota Mining & Mfg. Co., St. Paul, Minn. Among the mills reporting improved production are Verney Corp., Brunswick, Me.; Pacific Mills, Lyman, S. C.; and Guilford Mills, Greensboro, N. C.

The waste of 3 to 4 yd. of material at the start of the wind on shells of Simpson winders has been eliminated by using a tape that has a pressure-sensitive adhesive on both sides. A 1-in.-wide band of tape is applied around the center and at each end of the shell. The adhesive on one side of the tape secures it to the shell, and the adhesive on the other side grabs the cloth for wind-up. The cloth pulls away from the tape easily and cleanly, it was reported.

The double-coated tape is also used to reduce the time necessary to change the felt on the race plate of looms. The tape is simply applied to the race plate, and the felt pad is pressed in place immediately. No drying time is necessary.

A third use for the double-coated tape is to hold yarn ends temporarily but firmly to the vertical brace at the front of a creel.

Another of the new tapes, No. 916, eliminates end-to-end sewing in the piecing of goods for finishing processes. The tape is applied in 3-in. widths to make a temporary butt splice of the material, which can then be wound, rewound, and processed in one long continuous strip.

The same tape is used in tabbing and in holding the last lap of cloth on a roll, eliminating pin holes. The tape removes cleanly, it is claimed, and has a high stretch factor that enables it to compensate for contraction of material stretched during winding.

For holding the ends of yarns during warping and slashing, tape No. 250 is used. This tape has a special adhesive to provide instant adhesion to ends and to avoid oozing of the adhesive to the next layer of yarn. Like the other "Scotch" tapes, it has a pressure-sensitive adhesive which permits it to stick immediately on contact, without moistening or other activation.

A fourth tape—No. 925—is used to speed up tricot knitting, several mills reported. A ¾-in.-wide piece of tape is used to hold the yarn that is to be entered into the separation piece of the guide bars. The tape facilitates holding the end in a hand clamp while the operator places a spreader in them and pulls them through the guides after the entire warp has been hooked on the threader bar.

In addition to the special textile tapes, a number of mills have reported using cellophane tape, in various colors, for identifying bobbins, roving cans, and defective materials.

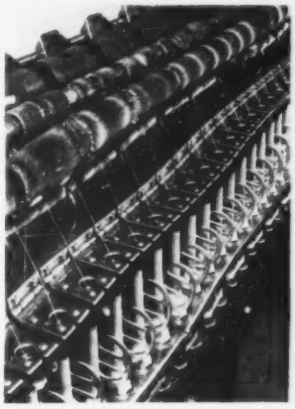
To request further information, please use the card on page C of the Reader-Service dept.; refer to T-62.

Revolutionary Worsted-Drafting System Reported

Drafts of 20 to 200 in spinning worsted on cap, ring, or flyer frames are reported to be possible through the Ambler system, a new drafting system developed in England. This performance is said to have been already achieved in commercial production. The apparatus is now in production at the works of Rose Brothers (Gainsborough) Ltd.; sale and installation of the equipment will be handled by Prince-Smith & Stells, Ltd., Keighley, Yorkshire, England.

Satisfactory preliminary trials are also said to have been carried out coupling the Ambler Superdraft system with the Prince-Smith centrifugal spinning frame [TW, Nov. '48, p. 159].

Hegemax Device Has New Design



***A NEW DESIGN** of the Hegemax device for spinning has been announced by Noetex, Ltd., Zurich 32, Switzerland. The new model supersedes the one shown in TEXTILE WORLD, June '49, p. 144. The Hegemax device imparts a preliminary twist to yarn between the front roll and yarn guide. Better yarn and higher spindle speeds are said to result from use of the device.*

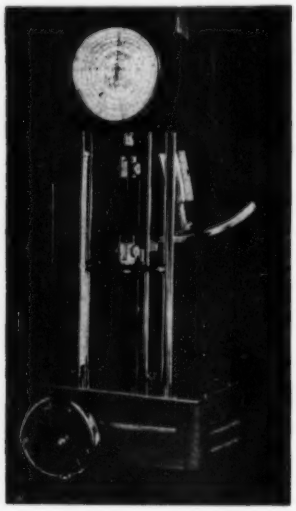
To request further information, please use the card on page C of the Reader-Service dept.; refer to T-6.

Hand-Powered Tester Is Low in Cost

A new, hand-operated multi-low-range tester said to be low in cost has been developed by W. C. Dillon & Co., Inc., 5410 Harrison St., Chicago 44, Ill. The tester is reported as accurate to ½ of 1%. Range is 1 to 100 lb. Four scales cover the full range: 0 to 10 lb. in 1-oz. divisions; 0 to 25 lb. in 2-oz. divisions; 0 to 50 lb. in 4-oz. divisions; and 0 to 100 lb. in 8-oz. divisions. Purchaser has choice of calibration in tenths of pounds, ounces, or kilograms.

The indicator remains at peak load after specimen breaks; reset is manual. A finely divided scale mounted on one pressure column shows elongation readings.

One pair of grips for flat specimens is furnished with the tester. Other grips are available for various types of



HAND-POWERED, low-cost tester is said to be accurate to ½ of 1%.

materials and samples. The standard model has an opening of 14¾ in. between grips. Other models can be supplied to give openings of 24, 36, and 48 in. Minimum opening is zero.

The tester is powered by hand through a worm-and-gear drive floated in ball bearings. The unit can be motorized.

Over-all height is 40 in.; weight is 85 lb. Finish is chromium and baked gray crackle.

To request further information, please use the card on page C of the Reader-Service dept.; refer to T-69.

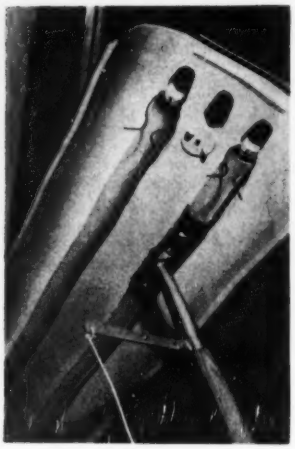
Top Roll Ends Bushed With Nylon

NYLON ROLL-END BUSHINGS are said to reduce lubrication and picking of rolls.

Elimination of oiling roll ends and cap-bar nebs and a reduction in picking of roll ends are advantages claimed for bushing the ends of top rolls of spinning frames and solid rolls of roving frames with nylon, a service offered by Cox Foundry & Machine Co., P. O. Box 153, Station A, Atlanta, Ga. The nylon tips are also said to eliminate wear almost completely. Added advantages claimed are reduction of oil contamination on roll coverings, and restoration of original diameter of roll ends—a factor influencing accurate roll settings.

To request further information, please use the card on page C of the Reader-Service dept.; refer to T-61.

Device Simplifies Fluorescent-Lamp Changing



REMOVAL AND REPLACEMENT of fluorescent tubes without the use of ladders is possible with a device introduced by Newman Mfg. Co., 205 Westport Rd., Kansas City 2, Mo. Gripping jaws of the tool open by pulling a cord; when the cord is released, a spring automatically turns the lamp 90°, and the lamp can be lowered. To install a new lamp, pins in the lamp are lined up with the slots in the sockets from where the operator stands on the floor. The lamp is then inserted in the sockets; the cord is pulled until the lamp is turned through 90°; the jaws open, and the tool may be removed.

To request further information, please use the card on page C of the Reader-Service dept., refer to T-66.

Loom Brake Lining Is Resin Impregnated

A new brake lining made of resin-treated fabric by an improved impregnation process has been developed by E. H. Jacobs, Northern Div., The Bullard Clark Co., Danielson, Conn. Known as Jacobs brake lining, Type 66-Single, the product possesses a positive gripping surface that is said to provide quicker and positive stops. The lining is wear-resistant and is said to be ideal for braking material on looms. It is available in 1-in. through 2-in. widths, cut to required lengths, or in long roll form.

To request further information, please use the card on page C of the Reader-Service dept.; refer to T-72.

Winder Winds Single Bobbins

A single-spindle, manually operated bobbin winder for production of special bobbins is being made by Wildt and Co. Ltd., Great Bookham, Surrey, England. The winder is said to handle cotton, rayon staple, worsted, and other yarns.

The winder, called the Simplex, has been designed for low price and also for ease of operation.

The machine uses three speeds—3,000, 3,500 or 4,000 rpm.

Features of the winder are a simplified type of quick-release yarn-supply-package holder; an optional disk-tensioning device which can also be driven from the reciprocating yarn guide through a ratchet and pawl; and a feeler-disk control of the back build and diameter of the bobbin, directly driven from the bobbin itself.

From the package, yarn passes through a disk tensioner, over a porcelain guide which also operates the automatic stop motion if the yarn should run out or break, and directly to the bobbin.

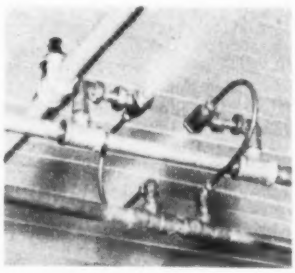
To request further information, please use the card on page C of the Reader-Service dept.; refer to T-63.

Humidifier Head Is Self-Cleaning

A new water- and air-pressure humidifier head for cooling and humidifying has been developed by G. & H. Mfg. Co., 327 Elm St., Fitchburg, Mass.

The humidifier is designed to be operated at any water pressure while

(Continued on page 200)



NO HEAVY SPRAY during operation or while turning on or off is said to be a feature of this new humidifier head.

A SIMPLE MATTER OF ARITHMETIC...

Does $B + \frac{B}{2} = A$?

If surface active agent "A" costs 50% more than "B" but you only need use half as much, which is the better value?

Don't let low prices fool you—

"A" is the better buy!

Suppose "B" is 30 cents a pound; "A" at 50% more would be 45 cents. But, you use half as much of A as of B to get identical wetting speed, so a half-pound of "A" at 22½ cents will do the same job as well and as quickly as a pound of "B" at 30 cents—a clear saving of 7½ cents.

That comparison holds true in principle for Houghton's SURFAX 1288, which is less than 45 cents, but a far more efficient product than so many on the market which may be priced lower. • Use 1288 for faster wetting and rewetting of textile yarns and fabrics. Use it in neutral, mild acid or mild alkaline solutions. Use it for leveling dye baths, for package dyeing, for preparing fabrics for compressive shrinkage. And— • use *less* of it, because it's concentrated. • Write for Product Data Sheet and price of this newest member of Houghton's Surfax series. E. F. HOUGHTON & CO., 303 W. Lehigh Ave., Philadelphia 33, Pa.

SURFAX 1288

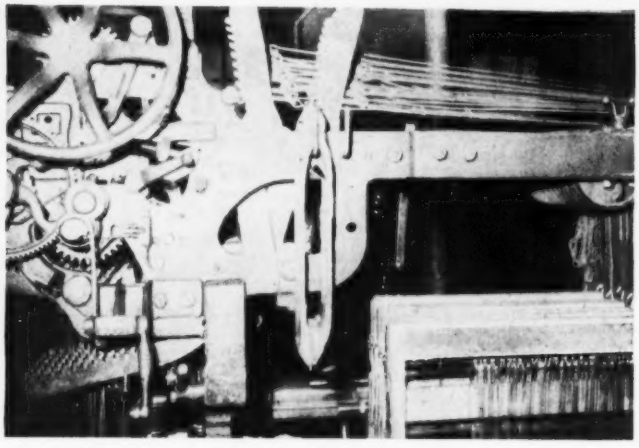
Kinks AND SHORT-CUTS

Shuttles Not in Use Are Kept on Loom Arch

In most mills, looms do not always operate on the same number of shuttles. Some fabrics may be woven with two shuttles while others may require three or four shuttles. If the inactive shuttles are left in the shuttle box for some time, they will become oil soaked and pick up a lot of lint and dirt.

A rack to hold the shuttles until they are to be used may be constructed and bolted on the loom arch. Use a piece of $\frac{3}{8}$-in. flat iron about 6 in. long and $2\frac{1}{4}$ in. wide. Drill and tap two $\frac{7}{16}$-in. holes, one near one end of the piece and the other about 3 in. from the first hole. Now drill a $\frac{1}{2}$-in. hole near the other end of the piece; the bolt on the loom arch will be used through this hole to hold the piece to the arch.

The hooks that hold the shuttles are made of $\frac{7}{16}$-in. round rods 5 in. long. Thread about $\frac{3}{8}$ in. of one end of each and screw the rods into the $\frac{7}{16}$-in. threaded holes in the piece. About 2 in. from the threaded ends, bend the rods at right angles to hold the shuttles as shown in the photograph. *(K-1161)*



IDLE SHUTTLES that may be put back in the loom at any time can be kept on the loom by the use of the rack shown here. It is bolted to the loom arch and has two hooks for holding one shuttle each.

Slot in Shear Bracket Makes Removal Easy

Removing the shear bracket on a Scott & Williams circular knitting machine is a little hard because the shear bracket is so close to the latch-ring

Below is announcement of a greater KINK CONTEST you can enter NOW. Kinks being published in this issue will be judged as outlined in the rules below.

$200 for Best Kink in 1949
$25 for Best Kink Each Month
In Addition to Space Payment on Acceptance

You undoubtedly know of many kinks and short cuts that are helpful to mill operators. Write them down and send them in. We pay promptly on acceptance—before publication. In addition, your kink may win the $200 check for the best kink of the year or the $25 check for the best kink of the month, maybe both!

Send in your kink now. There is always a contest going on. The more good kinks you send in, the better your chances of winning a prize in addition to earning some easy money for every kink accepted.

We will polish up your writing and will have an artist make finished drawings. But send in plenty of details so that your kink can be clearly explained. Be sure your sketch is clear and well labeled, but it need not be a polished job. Best of all, send us a good glossy photograph of it—we will pay you extra if you do and we can use it.

Look over the kinks in this and other issues. You will get ideas you can use as well as inspiration for kinks you can send in. We like items that pertain to ways for improving machines, new devices that a mill man can build, attachments or methods of merit—anything that will cut costs, improve quality, or help production.

Your published kink will be judged impartially by other mill men. In case of ties, duplicate prizes will be awarded.

RULES OF CONTEST

1. No limit to number of entries.
2. New $25 prize contest every month, $200 prize contest for the year. Monthly contest confined to kinks published that month, yearly to those published in calendar year 1949.
3. All kinks paid for on acceptance; extra payment for photographs. Drawings need not be finished (clear detailed pencil sketches will do).
4. Previously published material not eligible for prizes.
5. Unless you advise to contrary, we assume we may sign your name to kink when published.
6. Prize winners will be selected by readers, a different group each time. At least 200 will be asked to select preferred kinks in each issue. Their votes will select the best kink, and their decision will be final.

Send kinks to whichever address you prefer:

TECHNICAL EDITOR, TEXTILE WORLD
330 W. 42nd St., New York 18, N. Y.

ASSOCIATE EDITOR, TEXTILE WORLD
P. O. Box 1641, Columbus, Ga.

NEW ENGLAND EDITOR, TEXTILE WORLD
P. O. Box 305, Salem, Mass.

SQUARE D's *New*

SAFETY SWITCHES

***Types A, C and D**

Backed by 40 years' DESIGN LEADERSHIP

The remarkable superiority of this new switch line is reflected in these TYPE A design and operating features:

MODERN STYLING is both functional and attractive.

COMPACTNESS obtained without sacrifice of wiring convenience.

FULL COVER INTERLOCK has attachment that locks switch "ON" or "OFF" with 1, 2, 3 or 4 padlocks of nearly any size or shape.

SIMPLE MECHANISM—quick make-and-break action—no dead center.

SILVER-PLATED current-carrying parts.

EXPOSED BLADES permit visual checks of switch operation.

DEAD-FRONT line terminals are protected by hinged arc chamber cover.

MAGNETIC ARC PLATE adds to unusually high rupturing capacity.

POSITIVE PRESSURE jaws and fuse clips, steel reinforced, silver-plated.

NON-TRACKING insulation used in base. Melamine insulating cross-bar.

REMOVABLE PRESSURE CONNECTORS permit substitution of solder lugs, where preferred.

**Types C and D similar to Type A in appearance—differ in construction details*

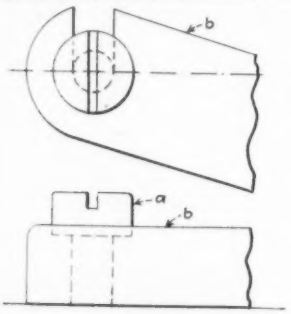
In production: 30 and 60 ampere sizes ...**NOW** · 100 and 200 ampere sizes ...**SOON** · Larger ampere sizes ...**LATER**

Write for Bulletin 3100 • Square D Company, 6060 Rivard Street, Detroit 11, Michigan

SQUARE D COMPANY

DETROIT • MILWAUKEE • LOS ANGELES

SQUARE D COMPANY CANADA LTD., TORONTO • SQUARE D de MEXICO, S.A., MEXICO CITY, D.F.



A SHEAR BRACKET can be easily removed and replaced if the screw that holds it does not have to be taken out and put back in. Sink the screw head 1/32 in. into the bracket, and cut out one side of the screw hole. The screw head will hold the bracket in place. To remove the bracket, back the screw out until the slot can be slipped off the screw.

bracket. These brackets being so close together makes it hard for a fixer to see the screw that holds that side of the shear bracket. It's difficult to replace the screw after it has been removed.

The shear bracket can be changed, as shown in the sketch, so that it is more easily removed and replaced.

The screw hole in the end of the bracket, *b* in the sketch, may be countersunk and cut out at one side. The counterbore should be deep enough to permit the head of screw *a* to sink about 1/32 in. into *b*. The slot should be large enough to slip over the shaft of screw *a*.

The bracket is held in place by the head of the screw. When the bracket must be removed, a couple of turns on the screw will back the head out of the counterbore and permit the bracket to be slipped out from under the screw. *(K-1173) Walter A. Simond, Franklin, N. H.*

Initial Pass Run Brightens Dye Shades

Finishing plants always have trouble with process water. No matter how well it's filtered and softened, it still has impurities that dull bright shades.

Here is a method for obtaining top-quality shades in the pastel range and also rich hues in medium and heavy ranges. It increases processing costs a little, but it gives better results.

The idea is to pass a batch of goods through a bath before the dye is added.

For example, we prepare a bath of sulphuric acid and glaubersalt (with no dye added). Of course, it is necessary to have all the equipment as clean as possible and to use soft, filtered water. When the bath is ready, we pass through a batch of cleanly scoured wool and put it aside for a run that does not require excessive bloom.

Then we add the dye to the bath. When it is ready, we run through a batch that requires bloom, clearness, and depth. The result is that impurities in the water that tend to dull pastel shades have been taken out by the first run of wool, and the pastel shade is clear and bright.

A test made by running one lot direct and one with the pass will quickly show the value of this method. It can be used for any colors where quality dyeing is needed. *(K-1183) W. E. Fisher, Uxbridge, Mass.*

Larger Yarn Packages Wound on Old Rewinders

The Lehigh Valley Throwing Mills, Bethlehem, Pa., wanted to increase the length of the bobbins used on their double-deck twisters so that the bobbins would hold 8 oz. of yarn instead of 3½ oz.

In order to make the change, the cork-covered, cast-iron cylinder rolls on which the supply bobbins run had to be extended to accommodate a longer supply bobbin. It was also necessary to move the spindle and bolster farther out so that the take-up bobbin (which could be wound to a larger diameter) would run free when it was fully wound.

To replace existing rolls and bolster base plates would have cost a substantial sum of money. The problem was how to utilize the old rolls and base plates. Arc welding provided the answer.

In the case of the plates, a simple operation was performed. The plate was cut in two and an extra piece of cast iron of the prescribed length was welded into place.

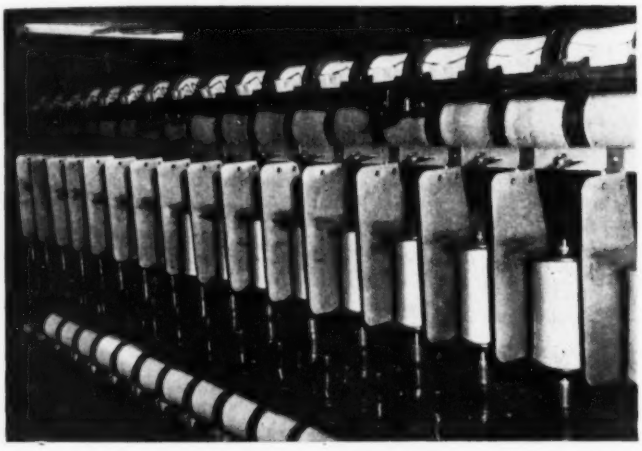
The rolls were another matter. It was comparatively simple to weld the necessary extension to one end of the roll; but since the rolls must be covered with a layer of cork, the roll surface had to be absolutely smooth. Easily machinable welds were therefore necessary.

After some experimentation, Airco No. 375 electrodes were tried. These electrodes, especially manufactured to produce machinable welds in cast iron, provided the answer that Lehigh engineers were looking for. They are now being used successfully in the extension of 35,000 rolls and 2,450 bolster base plates at a cost saving of approximately 50% of the price of new rolls and hangers. *(K-1135) Air Reduction Sales Co.*

Seats for Spinners Fastened to Frame Heads

Stools or boxes placed around the spinning room for spinners to sit on when they rest are usually in the way. Often, they get misplaced and the spinner has to hunt for one.

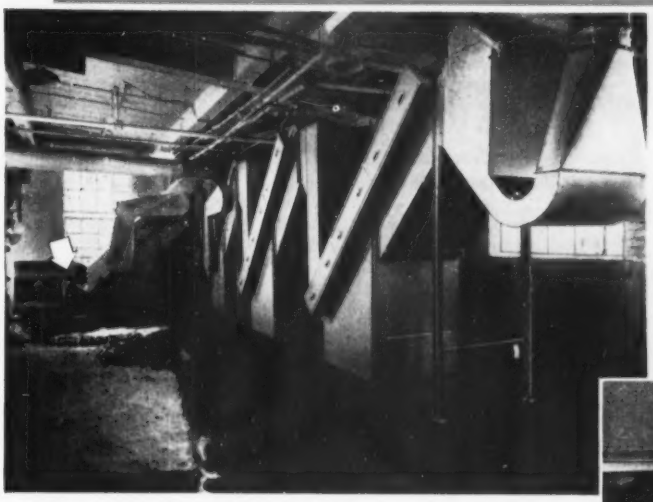
A good way to provide seats that will not be lost or in the way is to fasten them to the heads of the spinning frames. They can be constructed so that they swivel upward out of the way when they are not in



YARN PACKAGES on double-deck twisters were increased from a net capacity of 3½ oz. to 8 oz. Changes necessary were lengthening the cork-covered cylinder rolls and moving out the spindles and bolsters. Rolls and base plates were lengthened by pieces welded in.

Now! A PERMANENT NON-ELECTRIC MAGNETIC PULLEY FOR AUTOMATIC TRAMP IRON REMOVAL

Developed by Eriez



ERIEZ Non-Electric Permanent Magnetic Pulley installed in opening room at Shuford Mills No. 2, Granite Falls, N. C.

ERIEZ Permanent Non-Electric Pulleys gives you these Advantages.

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3. Cool Running . . . No Loss of Magnetism Through Heating Up
4. Not Affected by Moisture or Wet Materials.
5. No Operating Costs . . . First Cost is Last Cost.
6. Minimum Installation Cost.
7. Simple . . . Powerful . . . Permanently Magnetized.
8. Uninterrupted Operation . . . Top Efficiency Always.
9. Easily Installed in Original Equipment.

Close-up of Eriez Pulley in operation.

HERE'S the newest, most effective way to automatically remove tramp iron from textile fibers . . . Eriez Permanent Non-Electric Magnetic Pulleys ahead of opening and other processing equipment do away with tramp iron damage . . . Installed as a head pulley, the powerful magnetic field penetrates canvass or rubber belts, pulling iron out of your fibers and discharging it automatically. No manual cleaning is required.

Many mills, such as Shuford Mills (who use eight Eriez pulleys), find the installation of Eriez Magnetic protection a vital factor in recording savings on their cost sheet. Visualize these savings on your own cost sheet! No cost for operation or maintenance . . . the elimination of fires and subsequent cost in destroyed material and time lost in production shutdowns . . . the minimizing of expense for replacement parts and labor necessitated by damage to machinery caused from tramp iron . . . Yes, they really add up—and Eriez can quickly and effectively eliminate them. The cost is low—the savings great. *Write for complete information and recommendations today.*

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Sycamore, Alabama
Pell City, Alabama

Celanese Corp. of America
P. O. Box 1000
Belvidere, N. J.

Goodyear Clearwater Mills No. 2
Rockmart, Georgia

Firth Carpet Co.
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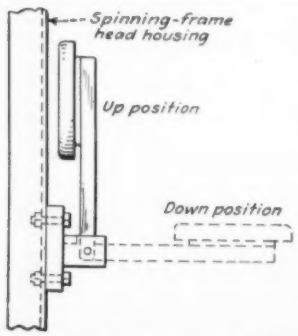


***A SPINNER'S SEAT** can be attached to the head of a spinning frame as shown here. When the seat is not in use, it swings up out of the way.*

use. When a spinner wants to sit down, she pulls the stool to sitting position.

Such a stool is shown in the accompanying sketch. It can be made as follows:

A cast-iron plate about 4 to 6 in. square is used to hold the seat to the frame-head door. Four bolts through the corners of the plate and through the door will support the plate and seat. A *U*-shaped holder, to receive a hinge bolt or pin, should be welded to the plate at about its center.

The *U* hinge section must have stops to support the weight of the spinner. The stops must be located at the upper corners of the hinge section where it is welded to the cast-iron plate and at the lower corners on the outer side of the hinge section

A cast-iron swing arm, with one end flattened and a hole drilled through it, works in the *U* section on a hinge bolt or pin. When the swing arm is raised and the seat is not in use, the lower end of the arm is in a vertical position between the *U*-section stops. When the seat is lowered, the swing arm comes to a horizontal position, strikes the stops, and holds the seat in sitting position.

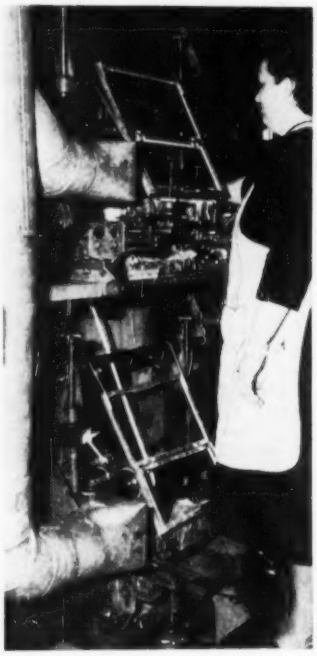
The swing arm should be about 1½ or 2 in. in diameter. It can be round or flat. It should be about 10 in. long.

At the outer end of the arm, either a cast-iron plate or crossarm about 8 in. in length should be welded or bolted to the swing arm. This plate or crossarm supports a round wooden seat about 1¼ or 2 in. thick and 12 or 14 in. across. The seat is bolted to the support, with the bolt heads countersunk.

To attach the swing arm and seat to the holding plate, place the flattened end of the swing arm into the *U* section welded to the holding plate. Line up the hole in the swing arm with those in the sides of the *U* bracket, and insert a bolt or pin.

The seat, when not in use, can be held in an upright position either by a hook fastened in the frame door and an eye in the edge of the wooden seat, or by a swivel spring placed in the *U* bracket so that it is compressed between the swing arm and one of the stops when the seat is lowered. *(K-1170)*

Printing-Roll Guards Protect Against Burns



***HOT INK**, thrown off one of the rolls of a pigment printing machine, burned this operator's left hand. Duo-lite guards, held in heat-resistant frames, were put over the rolls to prevent another accident of this kind.*

New safety guards installed over the ink and rolls on a pigment printing machine offer added protection to the operator and better vision of the work in progress, at least one mill has discovered.

The guard is made of unbreakable, shatter-proof glass mounted in a frame of heat-resistant metal. It was developed and installed by the section foreman and maintenance department at Royal Swan, Inc., Catasauqua, Pa., a ribbon-manufacturing subsidiary of Burlington Mills Corp.

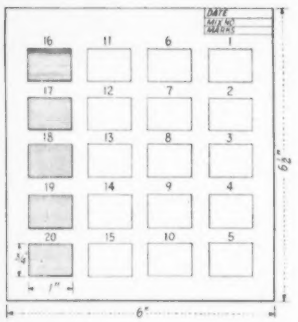
The safety guard protects the operator from burns caused by hot ink spattering when the ribbon breaks. Anna Petro, shown operating the machine, wears a bandage on her left hand where she was burned before the guard was installed.

The glass shield is of Duo-lite, made by Pittsburgh Plate Glass Co. It is inclosed in a galvanized frame with asbestos strips inserted to protect the glass. The guard is hinged in the middle so that the lower half can be lifted up when the operator must refill the ink trough or inspect the printing rolls. The frame is held in place by hooks attached to a rod at the top of the frame.

The guard is cleaned daily with a metallic cleaning pad and clean waste.

Two guards are used on each machine, one over the top printing section and one over the bottom. *(K-1174)*

Classer's Lay-Down Pad Shows Staple Length of Mix

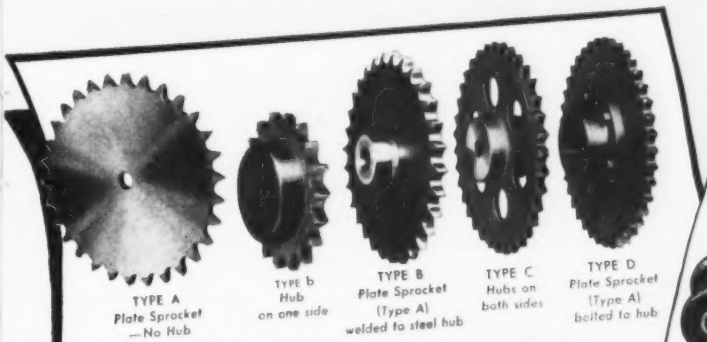


***STAPLE LENGTH** of the bales of cotton in an opening-room mix can be mounted for inspection on a desk blotter marked as shown here. Each numbered section is for a pinch of pulled staple from a bale of the mix. The lengths of the sections should exactly correspond with the theoretical staple length of the mix being run.*

Close tolerances of the staple length of cotton are maintained in many mills. The lay-down pad described here may be useful in checking the staple of the bales laid down in an opening-room mix.

It is well known that there may be variation in staple length from the length specified in warehouse invoices. In our case, we were set up to run 1-in. staple. Our machines were set up so that much variation from 1 in. would result in bad work. So we devised the lay-down pad so that we could have the means for quickly determining

AVAILABLE FROM STOCK



TYPE A
Plate Sprocket
—No Hub

TYPE b
Hub
on one side

TYPE B
Plate Sprocket
(Type A)
welded to steel hub

TYPE C
Hubs on
both sides

TYPE D
Plate Sprocket
(Type A)
bolted to hub

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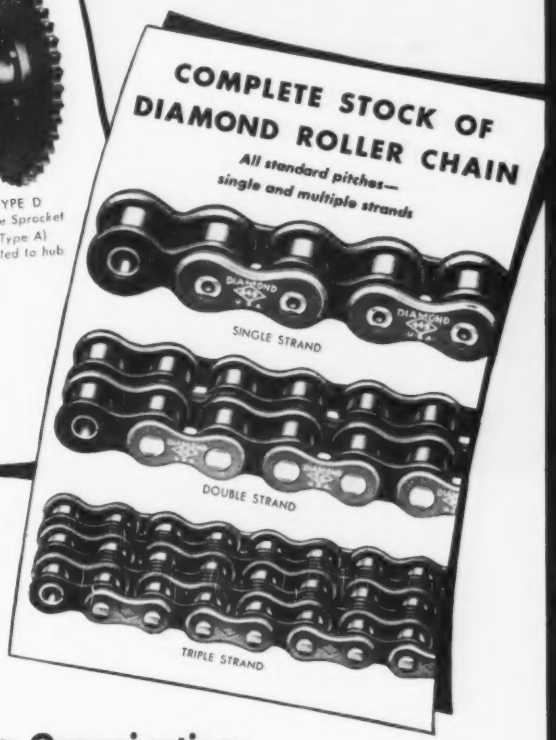

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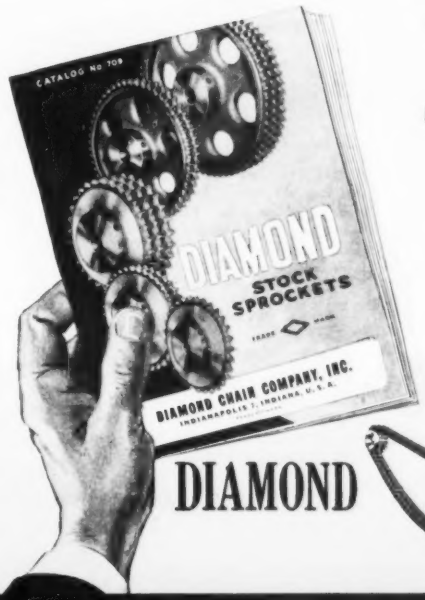

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whether the staple length of our mix was right.

Our opening-room mix consisted of 20 bales, and we had sufficient room for three mixes. Each mix was opened at least 4 hr. before it was used to permit it to become conditioned as much as possible.

Samples were taken from each bale after it was opened. We had a small wooden box made with 20 pockets. These pockets were numbered so that each bale could be identified from the position of the sample in the box.

The pad shown in the sketch was made from heavy blotting paper used for desk pads. There was sufficient nap on the surface to hold the pulled samples in position. It was found that a small piece of card clothing drawn lightly over the surface increased the cling of the blotter nap.

As shown in the sketch, the pad was drawn off into 20 divisions, one for each bale sample. Each division was 1 in. long and ¾ in. wide. When the classer pulled a sample, he laid the pinch down on the pad in one of the spaces, one end of the pinch being laid on the left-hand line of the sample space. It was therefore easy to see whether the right-hand end of the pinch came exactly to the right-hand line. Any sample staple shorter or longer than 1 in. could be spotted at once.

Numbering the spaces began at the upper right-hand corner of the pad, went down the first vertical line of five spaces, and started the second line of spaces at the top again. The spaces were numbered in this way so that the classer could easily lay down a pinch without interfering with those previously laid down.

A thin sheet of transparent plastic was placed over the samples when stapling the mix was completed. This cover was fastened at the top and bottom of the pad with small spring clips. The pad and samples could be kept as long as needed, and were always available for inspection. We used four of them so that visual records of the length of staple for each mix could be kept until all the bales in the mix had been used.

We fastened thin, stiff cardboard to the backs of the pad so that they could be handled more easily. *(K-1166)*

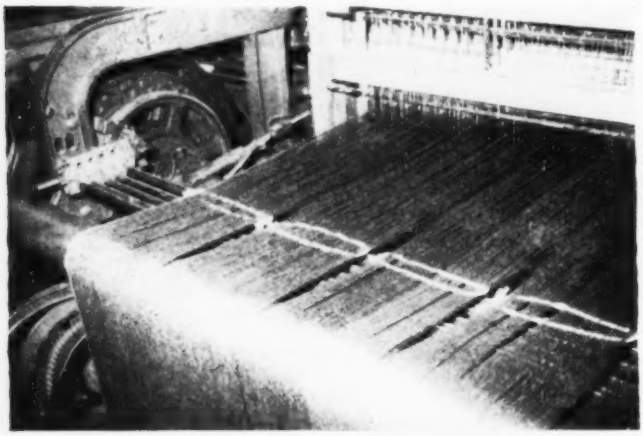
A Double Warp Lease Keeps Ends Straight

In dressing a fancy worsted warp, the usual practice is to put in only one lease. This lease is put in about a foot from the end of the yarn and is used when the warp is set up for the drawing-in operation.

After the warp ends are drawn in the harnesses and reed, the warp is ready to be put in the loom and the loom started up. If two or more warp ends are broken in the process of starting up, it is almost impossible to tie them up without getting them crossed. The more ends broken, of course, the more chance there is for a greater number of warp ends to become crossed up. Crossed ends in the warp will not only lower loom production, but they will also cause imperfections in the woven fabric.

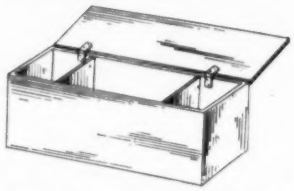
To correct these conditions, have the dresser put in an additional yarn lease in each section about 4 ft. in from the end of the yarn.

This practice will position a lease in the warp at a point between the harnesses and the whip roll after the warp is mounted in the loom. A lease at this position helps the starting of the warp and also makes a 1-and-1 lease for the drop-wire girls. This type of lease is very important when a weave has two warp ends in one heddle or two heddles side by side on one harness. Without a lease, considerable time may be lost by the girls in separating the two ends for a drop wire. *(K-1162)*



A DOUBLE LEASE is a considerable help in mounting and starting up a fancy worsted warp. The second lease should be put in about 4 ft. from the end of the yarn.

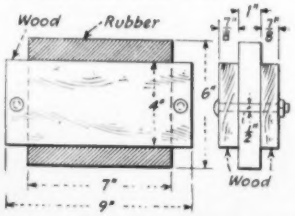
Spinner's Waste Box Fastened to Frame



A SPINNER'S WASTE BOX can be made of sheet metal and mounted on the head end of the frame. If the head-end door is in one piece, the box can be made as shown here. If the head has two doors that open in the middle, two short boxes could be made.

The three compartments of the box may be used by the spinner for different articles—as, one for brushes, hooks, and other cleaning tools; one for roving waste; and one for scavenger-roll waste. (K-1171)

Leather-Belt Cleaner Made From Old Tire



A BELT CLEANER that will not scratch the belt but will remove lint and dirt can be made as shown here. The rubber was cut from a discarded automobile tire. It is held firmly between two pieces of wood bolted together.

The use of card clothing for cleaning belts should not be permitted in any mill. Each time card clothing or a stiff wire brush is used, part of the leather belt is scraped off. This practice proves expensive in shortening the life of the belt. Evidence can be seen in many mills where this method

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2. **RESISTS ABUSE** . . . won't chip or splinter . . . withstands the punishment of rough handling and increased loads. Maintenance is eliminated.
3. **FAST PICKUP** . . . picks the lap up *fast* . . . avoids overlapping and waste in the lap . . . gives more uniformity in the finished yarn.

For data and application help, consult your nearby Westinghouse office, or write Westinghouse Electric Corporation, P. O. Box 868, Pittsburgh 30, Penna.

Ask for a copy of Bulletin B-4359, which tells how Micarta Lap Rolls were developed, tested, and the advantages and economy they will bring to your operations. J-06432

Westinghouse **Micarta**

of cleaning belts is used. The belts, in many cases, have been scraped down to half their original thickness. Such belts do not have the driving power of a thicker belt.

Claims are often made that this is the only practical way to remove lint and other matter from the belts; but mills that use other methods have clean, good-surface belts with no undue loss of thickness or belt life.

Rubber blocks set in a wooden holder have been found effective in removing lint and other accumulations. Their action is gentle enough to prevent injury to the belt.

During one period, due to the scarcity of rubber, these rubber blocks were not obtainable. The substitute described here was used and found effective and much cheaper than the rubber blocks previously used. This substitute continues to be used in many cases in preference to the blocks.

The substitute cleaner was made by cutting an old discarded rubber tire into sections, avoiding the thick-beaded edges. Pieces 7 in. long and 6 in. wide were cut the full thickness of the tire. Two pieces of hardwood were cut $\frac{7}{8}$ in. thick, 9 in. long, and 4 in. wide. Holes $\frac{1}{2}$ in. in diameter were drilled through these pieces of wood in the center of the width and $\frac{1}{2}$ in. from each end.

One of the pieces of old tire was placed between the two strips of wood, and carriage bolts were put through the holes in the ends of the wooden strips and tightened up with nuts.

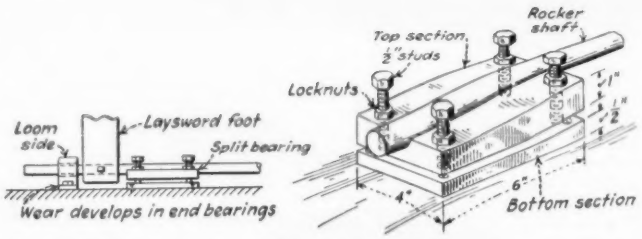
The 6-in.-wide piece of tire extended 1 in. on both sides beyond the strips of wood. The wood held the tire firmly and furnished a handy means for holding the cleaner in the hand to press it against the surface of the belt. The tool had two cleaning edges and did a good job of cleaning the belt. It was easy and cheap to replace when worn out. *(K-1164)*

Adjustable Bearing Made for Rockershaft

Worn loom rockershafts can be satisfactorily repaired by the use of an auxiliary split bearing under the shaft near the laysword foot. It may be desirable to use two such bearings, one on each side of the loom, if the shaft is worn at both ends.

The bearing is made from two pieces of metal. The bottom section is $\frac{1}{4}$ in. thick, 4 in. wide, and 6 in. long. The top section is 1x4x6 in.

Drill $\frac{1}{4}$-in. holes in the four corners of the bottom section so that wood screws can be used for fastening the plate to the floor. Countersink the screw heads. On a concrete floor, the metal plate can be glued down with hot hide glue.



***A LOOM ROCKERSHAFT** that has worn the end bearing and dropped down can be continued in use with the split bearing shown here. The bottom plate is fastened to the floor. The grooved top plate fits over it and supports the rockershaft. Height is adjustable by means of four studs with lock nuts.*

Drill four 27/64-in. holes in the top section and tap for $\frac{1}{2}$-in. threaded studs. Cut a $\frac{3}{8}$- or $\frac{1}{2}$-in. groove lengthwise through the center of the top section, and round it out so that the rockershaft will fit snugly into it along the whole length of the plate. Place the top plate on the bottom plate, with the shaft riding in the groove.

By turning down on the four studs, you can raise the top plate and rockershaft to the correct height to compensate for wear in the end bearing. Be careful not to raise the plate and shaft so high that the shaft will be bent.

Use lock nuts on the four studs to prevent them from being loosened by vibration.

After the split bearing has been adjusted, check and readjust the center filling fork and box cells, if the loom is a multiple-shuttle loom. *(K-1103)*

John Falcone, Bangor, Me.

Cut in S&W Dial Washer Marks Correct Dial Setting

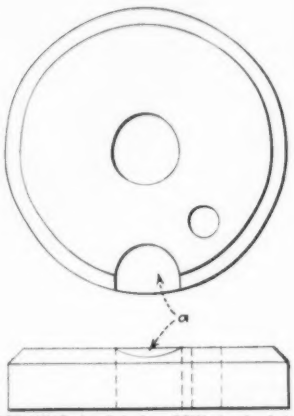
The dials on nearly all Scott & Williams circular knitting machines can be set in two positions, with the timing screws matching in each position. One position is correct; the other is timed 180° late and causes smashes.

To guard against setting the timing screws in the wrong position, fixers often lift the latch rings to check the positions of the locking screws in the hubs of the dials.

This practice is extra work that can be avoided.

There is a hard washer on top of the dial spindle. If the locking screws are set in their proper positions and a shallow cut is made in the top of the washer toward the front of the machine, this cut serves as a marker for future retiming of the dial. When the gears are correctly meshed, this cut will always be toward the front of the machine. If the locking screws are in the wrong position, the cut in the washer will be toward the back of the machine. *(K-1172)*

Walter A. Simond, Franklin, N. H.



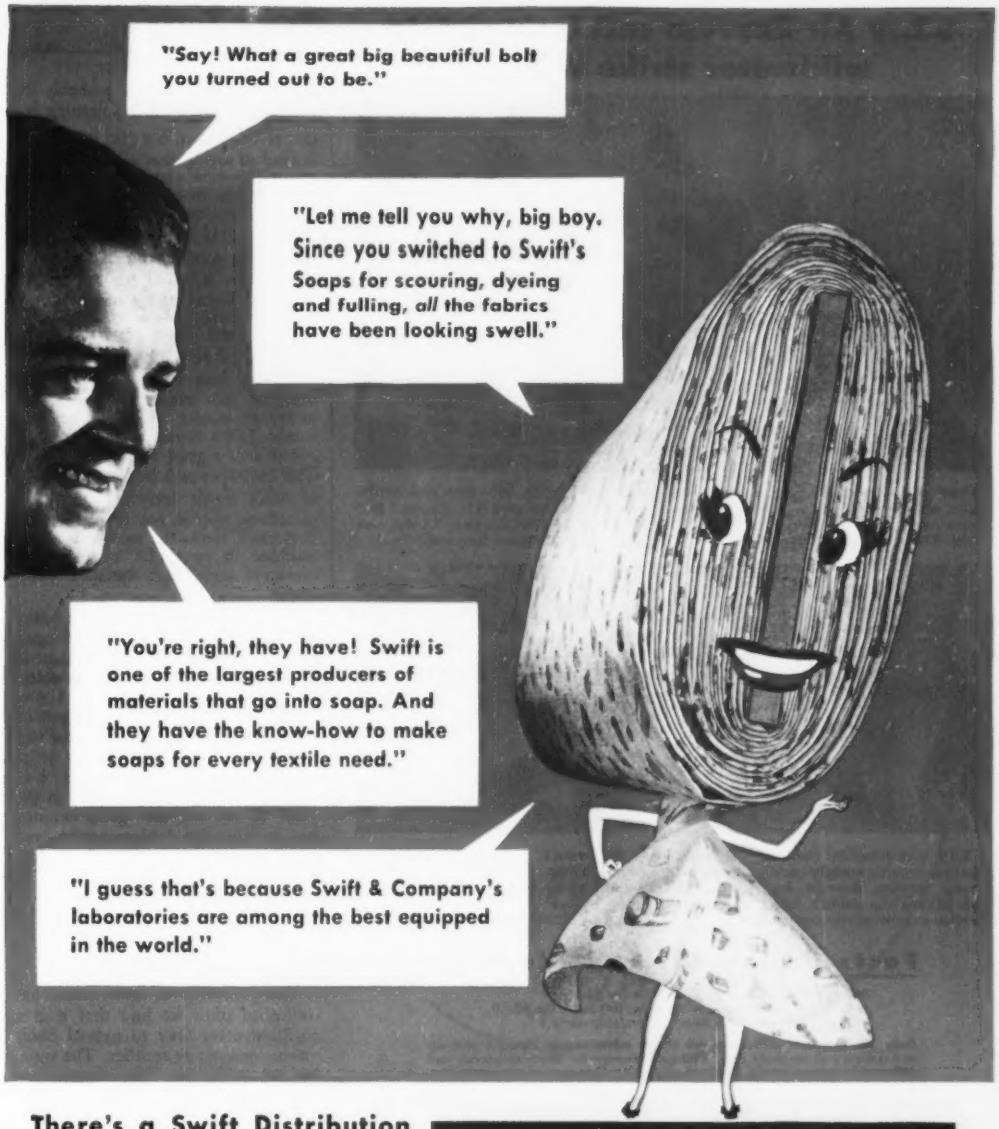
***RETIMING** the dial of an S&W circular knitting machine can be done without the latch ring being lifted. A shallow cut in the washer on top of the dial spindle serves as a marker. When the timing is correct, the cut in the washer will be toward the front of the machine.*

Fulled Worsted Leaders Make Good Tension Bands

Beam bands made from weave-room headings or cloth that has not been fulled will sometimes glaze up and cause the beam to let off with a jerky motion. The result will be light and heavy places in the cloth being woven.

A worsted leader run in the fulling mill until it has the appearance of a piece of felt is ideal.

Dress the leader as wide as the loom permits; the cloth will shrink approximately 25% in width. A 2-up-2-down twill weave with an open warp and filling construction will make good weaving. Do not burl or mend the cloth. Wash it if necessary to remove the size. Full it for 3 or 4 hr. Cut it in warpwise strips for use. *(K-1181)*


"Say! What a great big beautiful bolt you turned out to be."
"Let me tell you why, big boy. Since you switched to Swift's Soaps for scouring, dyeing and fulling, all the fabrics have been looking swell."
"You're right, they have! Swift is one of the largest producers of materials that go into soap. And they have the know-how to make soaps for every textile need."
"I guess that's because Swift & Company's laboratories are among the best equipped in the world."

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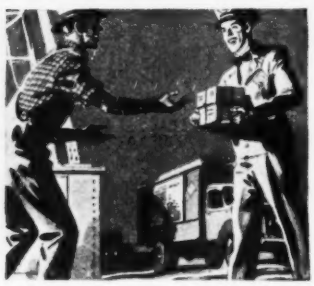

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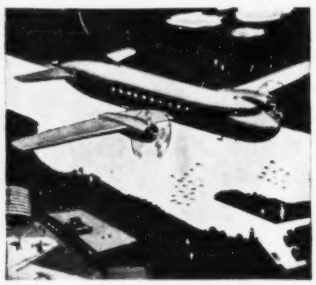

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Round Table

(Continued from page 145)

must also ignore what is probably the most critical point of the cleaning factors at the picker, the grid bars. Now, instead of saying that all these factors and others were related and connected, the text-book writer merely says to give 37 blows per in. on 1-in. cotton.

What could he have said that would have given good advice to the young carder who followed his every word with a slide rule and a reminder pad. He could have said,

"Son, your blows per in. on 1-in. cotton could vary from 1 to 1,000. If your grid bars are wide open, and some of your other machine factors pretty out-moded, you could give the cotton 1,000 blows per in. and still not deliver a good stock to the card. This blows-per-inch business, like a lot of other textile technical factors, is something you've got to understand. You can't settle the matter for your machine in your mill by blind follow-up of somebody's statistics. Think it out.

"Excessive blows per inch can damage the stock so that you can never get the breaking strength you want in the yarn. So, start on this problem from the other end of it. Get your grid bars and your machine in general in good condition. Set the grid bars for the stock properly. Then give a few blows per inch as you can, consistent with the quality desired in the yarn. If you can give good cleaning and quality with 1 blow per in., you are a lot better off than the carder who's giving 37 blows per in." (R-473, Providence, R. I.)

Spun-Rayon Strength Versus Staple Length

The popularity of rayon staple has continued until we find that it is a complimentary fiber to natural fibers for one purpose or another. The varieties are increasing. The chemist has achieved a control over most of the important features of rayon, principally fiber length and fineness. Now, fiber strength, elasticity, and combinations of these properties can be arranged to accommodate specific requirements of yarns and fabrics.

Rayon staple stands on its own merits; but existing systems of processing the fiber cover a limited field, and adoption of one particular system limits the staple length to that specific system. For instance, the standard length of staple supplied cotton-system machines has been 1⅛ in.

This length was not chosen because it produces the best yarn. It was chosen because conventional machin-

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one of the tools developed by Signode for use by volume shippers — the A-2 Automatic Seal Feed Machine — tensions, seals, cuts in one continuous operation.

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If you are wedged between "fixed" production costs and sagging sales prices, take another look at your packaging and shipping methods. For here is a vast area of money-saving possibilities that many manufacturers have overlooked.

In the use of steel strapping alone, only a few of its proved benefits are being capitalized.

Sure, it's great for protecting products in transit! But, more than that, its efficient use—with new tools and methods developed by Signode's steel strapping engineers—will help you cut your cost of doing business *6 ways:*

(1) reduce damage claims; (2) reduce package costs; (3) reduce freight bills; (4) discourage pilferage; (5) put shipping room operations on a production line basis; and (6) increase customer good will.

Special bulletins, describing Signode tools and steel strapping applications for practically all classes of products, are available without cost. To get this helpful information, write today listing the items you ship.

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STEEL STRAPPING PROTECTS YOUR SHIPMENTS AGAINST DAMAGE

READER-SERVICE DEPARTMENT

This four-page insert is at your disposal to help you derive increased benefit from your readership of TEXTILE WORLD. We hope you will study it, get well acquainted with it, and use it freely.—The Editors.

TO COMMENT on anything about TEXTILE WORLD, use the card below. We hope you will use it to give us your opinion, favorable or unfavorable, on any editorial material in order to help us serve you better. Use it to discuss textile-manufacturing problems, perhaps enlarging on something already printed, for publication in the Round Table department. Use it to tell us what you would like to see published to help you with your mill problems.

TO INQUIRE about any mill problem you may have, use the card below. If you have a technical question, submit it to our Questions and Answers department. Be sure to give as complete details as possible so that your question can be fully understood.

TO CONTRIBUTE kinks, textile-news notes, or other brief material, use the card below. If you have some useful idea for cutting costs, improving quality, or increasing production, enter it in our KINK CONTEST. We also warmly welcome queries as to the probability of our accepting for publication any specific articles you may contemplate writing for us.

☆

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FOLLOWING PAGES
FOR ADDITIONAL
SERVICES OFFERED

USE THIS CARD

Dear Editor:

(over)

MANUFACTURERS' BULLETINS

FREE FOR THE ASKING

Reviewed here is the outstanding trade literature of the month. Items are listed one month only—no repeats. Mill executives may request copies of literature by using cards on the next page.

A precision guider and guiding equipment which are said to have seven advantages are the subject of a folder available from Mount Hope Machinery Co. Operational details of the guider mechanism are included along with a description of accessory equipment—electric feeders, tension bars, plaiter, and tenter stands. (F-1)

Aladdin had a magic lamp—but there is real magic in lighting, according to a bulletin issued by Haskell-Dawes Machine Co., Inc. Bunching and stranding machines for wires or conductors with or without stuffers are featured in the publication. Several pictures of the machines are included. (F-2)

Textile trucks for every mill requirement are featured in a bulletin issued by Fisher Mfg. Co. Rolling trucks, oval-end steel trucks, and general-purpose trucks are pictured and described along with lap trucks, platform trucks, and drop-leaf-side fiber trucks. (F-3)

A general-products list of its chemicals has been prepared by Hooker Electrochemical Co. Besides outlining special manufacturing processes, the catalog gives the chemical formula, description, physical data, uses, and shipping information for 57 chemicals. (F-4)

Do you have a variable-speed problem? A five-way solution to your problem is included in a folder published by The American Pulley Co. A page is devoted to the method of selecting the right drive for your machine. Dimensions and specifications of sheaves and belts are also listed. (F-5)

A hot-water-heating system for process heating is described in a bulletin made available by J. O. Ross Engineering Corp. The 20-p. publication contains a typical layout of an industrial application along with charts and diagrams. A table shows the heat-carrying capacity of water as compared with steam. (F-6)

"Waste Treatment to Comply with Stream - Pollution - Control Regulations" is the title of a bulletin prepared by Infilco, Inc. A general discussion of the problem is followed by details of waste treatment by two chemical methods, two biological methods, and one special method for organic wastes for textile installations. (F-7)

A new Lucite, a heat-resistant acrylic-resin molding powder, is described in a bulletin published by E. I. du Pont de Nemours & Co., Inc. The announcement includes a table of the new product's properties—mechanical, thermal, electrical, optical, and miscellaneous. (F-8)

The manufacture of chemicals is described in an illustrated booklet which covers the history, operations, and products of the Mathieson Chemical Corp. Information is given on methods of production, properties, and applications of caustic soda, soda ash, bicarbonate of soda, liquid chlorine, ammonia, dry ice and carbonic gas, hypochlorite products, sodium methylate, sodium chlorite, and chlorine dioxide. (F-9)

Finishing- and dyeing-machinery users will be interested in several circulars made available by Birch Bros., Inc. The units covered in a current series are a heavy squeeze-roll unit, vacuum-pump unit, flock trap, and cloth-opening ranges. (F-10)

Rehabilitation of loom beams using light-metal barrels is discussed in an article prepared by Aluminum Co. of America. Results of mill tests, specifications of both magnesium and the aluminum barrels, and details of installation are given along with a sketch of a rehabilitation method. (F-11)

Fiber identification with tints is the subject of a folder issued by Blackman-Uhler Co. The tints covered are: Huco oil tint, Fibertint, Fibertint concentrate, Fibertint wool concentrate, Fugital concentrate, and powdered tints. For each tint, the type, use, and application are given. (F-12)

Self-lubricating bearings, bushings, and machine parts made of impregnated wood and said to give better service than metal are described in a catalog published by Neveroil Bearing Co. Comprehensive data are given for dobby sheaves, single-flange harness sheaves, double-flange harness sheaves, tension sheaves, and parallel blocks. (F-13)

Beta-methyl Umbelliferone, a fluorescent compound, is the subject of a technical bulletin made available by Koppers Co., Inc. Physical and chemical properties and industrial uses of the product are given. Data and graphs showing the ultraviolet and infrared absorption spectra, as well as the fluoresence spectra of the compound, are included. (F-14)

"Magnesium in the Textile Industry" is the title of a booklet published by American Magnesium Corp. Properties of magnesium that make it suitable for the textile industry are described. Specific uses in various types of machinery are outlined, and a large section of tables gives detailed specifications of the products. (F-15)

A study of rayon dyeing has been released in the form of a technical bulletin by Calco Chemical Div. The report, by G. L. Royer, gives the methods used in a series of tests, results obtained; and then summarizes the vat dyeing of rayons, solubility of dyes, and use of microscopy in studies of rayon dyeing. (F-16)

Opening of wool or similar fibers with the Rocar opener is the feature of a recent issue of "Proctor Progress." A diagrammatic view gives a quick picture of how the new unit, which replaces the bale breaker, picker, and cylinder wool opener, actually operates. (F-17)

Hosiery manufacturers are invited to send for a series of leaflets made available by Plasti-Line, Inc. Designed to aid in the production of more first-grade

---

From (give real name):

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Mill .....

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When published print:

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stockings at a lower cost, the plastic products described include examining glasses, separation racks, looper guards, knitter tables, and sizing boards. (F-18)

How much do you actually know about the South? You may be interested in a pamphlet compiled by the South Carolina Research, Planning, and Development Board. Entitled "General Statistics on South Carolina," the publication is divided into national and area comparisons, state data, and county data. Cotton-spinning-activity records are also included. (F-19)

Automatic control of textile decating machines is the subject of one article in a recent issue of *Instrumentation*, publication of Brown Instruments Div. A section is also devoted to the use of time-temperature control in piece-goods dyeing. (F-20)

A shrinkage tester for knit fabrics is described in a bulletin prepared by U. S. Testing Co. Designed for testing rayon circular-knit fabrics, the unit is pictured. Directions for its use are given. (F-21)

A free poster on careless smoking is included with a recent issue of the *Factory Mutual Record*. Also featured are articles on storage spots made safe from fire, waterproof covers for mill motors, and a summary of the engineering aspects of fire prevention. (F-22)

Reclaim those dollars down the drain with a heat reclaimer—such is the advice given in a bulletin issued by The Patterson-Kelley Co., Inc. Three broad types — standard pit, Flexitube, and closed—are described and illustrated. Case studies showing savings are given. (F-23)

Thickness and resilience of compressible and deformable materials is the subject of a bulletin on a new instrument being made by Gustin-Bacon Mfg. Co. The device is said to be particularly adaptable to loosely associated fibrous materials such as jute, sisal, wood, glass fibers, etc. (F-24)

Spinners, are you interested in eliminating doublings or reducing ends down? A comprehensive catalog has been issued by Pneumafil Corp. Details of the spinning system are shown in picture form. There is also a schematic layout of a central-system installation. (F-25)

"Practical Considerations in Textile Drying" is the title of a recent publication of Proctor & Schwartz, Inc. Among the aspects covered are nylon setting, polymerization of resin-treated fabrics, migration in dyeing, and tension in finishing of textile fabrics. (F-26)

Inspection of textile materials is said to be most satisfactory with a new light described in a bulletin made available by Macbeth Corp. Technical information includes a series of graphs which show the relative energy of three common light sources. (F-27)

Control of slasher size-box level is described in a data sheet issued by Brown Instrument Co. A schematic diagram of the control system is supplemented with a description of its operation, control-equipment specifications, and effects of synthetic or high-resistance solutions. (F-28)

One-shot lubrication of twisters and spinning frames is discussed in a brief study issued by Bijur Lubricating Corp. Details of production increases and reduced maintenance costs are given along with several pictures and diagrams of centralized lubrication as compared with hand lubrication. (F-29)

Padding—the use of that term in regard to the application of color to textile materials— is the subject of an article in *Dyelines and By-lines*, publication of Calco Chemical Div. There are also several other interesting notes about color dynamics. (F-30)

A heat-recovery system specially designed for the textile industry is featured in a folder prepared by The Sims Co. Points of design and construction are pictured and described in detail. The system uses a heat exchanger and a water heater. (F-31)

CARDS ON THIS PAGE are for the use of mill executives in writing for manufacturers' bulletins reviewed here, as well as for additional information about items appearing in our TEXTILE EQUIPMENT NEWS, NEW DYES AND CHEMICALS, and USEFUL ACCESSORIES departments, or in the ADVERTISING PAGES.

Write in the box of any one coupon the letter and number printed at the end of the editorial item that interests you. In the case of advertisements, enter the letter A followed by the page number. If there is more than one advertisement on that page, please add the initials of the manufacturer. In every case, we'll advise the manufacturer as to what you want in order that you may receive the reply direct from him.

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Polishing of quills automatically is discussed in a bulletin made available by J. M. Nash Co. Cleaning, buffing, and polishing of weaving bobbins is said to be done at a rate of 20 to 40 per min. Specifications of the machine are listed. (F-32)

Finishes which can be applied to aluminum surfaces are covered in a booklet offered by Reynolds Metals Co. The publication is a revision of a two-volume booklet published in 1946. The tabular matter presents much new information on approximating typical costs over the whole range of finishes, cleaning practices, and corrosion data. (F-33)

A practical demonstration of the many uses of its basic product has been prepared by Owens-Corning Fiberglas Corp. The booklet is a description of Fiberglas products applied or displayed in the new company office building in New York. A large section of the publication is devoted to textile products and uses. (F-34)

Steel collars with hollow set screws are featured in a catalog published by Standard Pressed Steel Co. A table of specifications is included, and several advantages of the self-locking combination are listed. (F-35)

A high-speed tenter frame which offers speeds up to 250 yd. per min. is featured in a folder published by Marshall & Williams Corp. Several views of the new frame show the modern features, such as aluminum guards on the entering end to prevent fouling and soilage, specially supported drive heads, and patented expansion joints on each rail. (F-36)

Stainless-steel sheets and plates of the chrome-nickel types are thoroughly presented in a 128-p. handbook prepared by Eastern Stainless Steel Corp. There is a coverage of uses of stainless steel in the textile industry for cleaning, washing, and drying. Processing and fabrication of the metal are also covered in detail. Tables showing physical properties, chemical composition, and reference data are included. (F-37)

"A Study of Fluorescent Dyes" is the title of a technical bulletin made available by Calco Chemical Div. Common uses for the dyes are discussed, and the theory of fluorescence is set forth. There are also tables on light absorption and emission of various dyes. (F-38)

Industrial instrumentation at Dan River Mills is featured in a recent issue of *Taylor Technology*. Among the operations illustrated and discussed are slashing, size cooking, continuous vat dyeing (from padding to reduction of the dyestuff, oxidizing, soaping, and washing.) (F-39)

Custom-made thread guides are described in a bulletin published by Power & Condon. Physical properties of AISIMag guides are followed by sketches of improved designs and of the older models which are replaced. Typical models are shown in detail with drawings and measurements. (F-40)

Flexible metal hose in a variety of metals is described in a booklet prepared by Chicago Metal Hose Corp. Complete sections of the publication are devoted to expansion joints for piping systems, stainless steel and brass bellows, and various conduits and special assemblies of these components. (F-41)

High-pressure condensate-return systems are featured in a bulletin published by Cochrane Corp. Data on steam-flow conditions and heat-exchange characteristics make the technical portions of this new book particularly useful to engineers responsible for the efficient transfer of steam heat in heating, cooking, drying, and pressing operations. (F-42)

The inside story of high-frequency dielectric heating is told in a new 12-p. Allis-Chalmers bulletin which sets forth nine operating advantages for this process. Portrayed are such applications of dielectric heating as forming and drying insulation collars, thermoplastic sealing, heating plastic preforms, and twist setting of rayon tire cord. (F-43)

On-the-job proof of the value of automatic oilers is presented in a catalog prepared by Trico Fuse Mfg. Co. Pictures of actual installations are supplemented by letters from users and a section showing the various models offered. (F-44)

Doublers for fine and medium yarns are discussed in a recent issue of *Platt's Bulletin*. A sectional view of a ring doubling frame shows the roller arrangements for wet and dry doubling. Other features include a description of a roller-bearing doubling spindle. A comprehensive production table is included. There are also articles on waste carding and the spring-clutch spindle. (F-45)

A guide to good floor housekeeping has been prepared by the Maple Flooring Mfrs. Assn. The folder, for architects, mill officials, maintenance engineers, and builders, lists the prime requirements of a good service finish and gives many tips on extending floor life. (F-46)

A moisture teller for quick, accurate moisture determination of many products, including chemicals and fabrics, is described in a catalog issued by Harry W. Dietert Co. Five models of the unit are pictured and specifications listed. Accessory laboratory equipment is also shown. (F-47)

Steam-line-corrosion control is the subject of an illustrated booklet made available by E. F. Drew & Co., Inc. A typical plant cycle shows where corrosion may be expected to take place. Details of the non-toxic control-system theory and operation are given. (F-48)

"Color Is How You Light It" is the title of a booklet reporting the results of a comprehensive study by Sylvania Electric Products, Inc. Based on an analysis made by four observers, all experienced in color work and recognition, the booklet is designed to provide factual information for designers, architects, and consultants. Among the many facts reported are findings of the best color to use for lighting where two surface colors are present. (F-49)

Conveyors which have been scientifically planned to solve engineering problems are featured in a catalog published by the Alvey Ferguson Co. Sixteen types of roller conveyors are shown in detailed sketches and described. Several methods of achieving curves and switch sections are illustrated. Spiral chutes, roller spirals, sheet-metal slides, and chain conveyors are also covered in the publication. (F-50)

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BUENSOD-STACEY, INC.

Announces a New Portable Electric Humidity and Temperature Indicator for quick testing of Humidity and Temperature

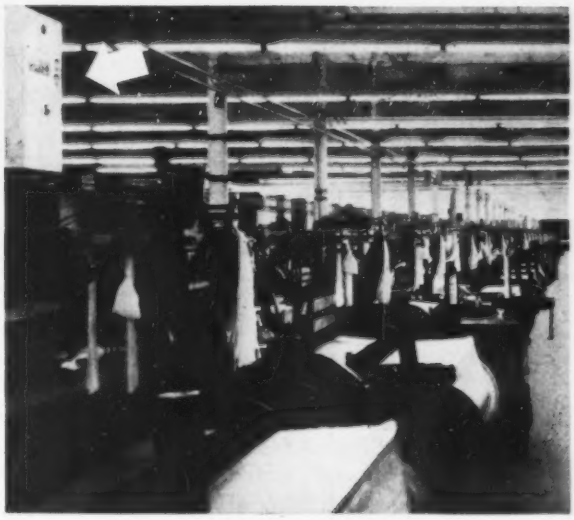
The Buensod-Stacey Portable Electric Humidity and Temperature Indicator was developed to meet the demand for quickly taking direct readings at any point in the mill of percentage of relative humidity and temperature in degrees Fahrenheit. Price $250 U.S.A. plus transportation and sales taxes.

Available immediately.

PATENT PENDING

THE BUENSOD-STACEY ADJUSTABLE INTERMITTENT HUMIDITY CONTROLLER insures extremely close control of relative humidity without the objectionable atomizer-head "wet-down" that is sometimes encountered. This "wet-down" is eliminated by the adjustable and intermittent features of the CONTROLLER which regulates the cycle of atomizer-head operation without interfering with their use in obtaining the desired relative humidity conditions. The adjustment extends through a wide range and is therefore suitable for a variety of applications.

CONTROLLED HUMIDITY WEAVE ROOM



A view showing the Buensod-Stacey Adjustable Intermittent Humidity Controller in the #6 Weave Room of the Hathaway Manufacturing Co., New Bedford, Mass. which room has 8 Controllers in operation.

P. L. Davidson & Associates, Textile Consulting Engineers, Buensod-Stacey, Inc., Installing Engineers.

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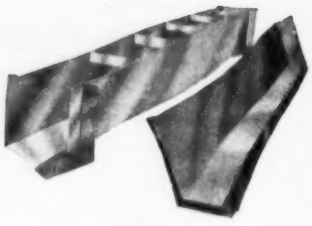

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SEPARATORS

With *Stainless Steel* colors run true in successive runs and sensitive chemicals are unaffected by metallic contamination. Reduce costs by eliminating controllable rejections. Because *Stainless Steel* is stronger . . . reduced repair and maintenance costs and longer earning life repays initial installation quickly.

Whether your requirements be large tanks or small separators, stainless or carbon steel . . . *Truitt will fabricate it for you.* Refer your specific needs to us . . . our engineering services are available without obligation.

• • •

Fuel Tanks — Vats

Stainless and Carbon Steel Fabrications

TRUITT

MANUFACTURING COMPANY

• GREENSBORO, NORTH CAROLINA •

Round Table

(Continued)

(*Continued from page 178*)

ery could process that length without expensive machinery modifications. The cotton spinner can process very fine fibers but not very long ones. He cannot take advantage of the optimum yarn strengths of longer fibers. This limitation is visualized when fiber lengths are plotted against yarn strengths.

A digest of such graphs showed the yarn strength of 20s, 24s, and 30s. The counts were ring spun from 1.5-den. viscose in three separate lots of 1, 1⅛, and 2¼ in. The lea strength in pounds was multiplied by the yarn counts. The approximate strength of 20s started at 1,760 lb. for 1-in. fiber, rose to 2,000 lb. for 1⅛-in. fiber, and to 2,170 lb. for 2¼-in. fiber. Similar rises were charted for 24s and 30s.

There is an optimum length beyond which no strength increase results. This length is approximately 2⅛ in. But it is too long for conventional cotton equipment. Other tests have been made to show the effect of denier on yarn strength; and in general, as the denier becomes coarser the strength diminishes.

Other conventional processing methods do not entirely fill the bill for rayon either, and I want to discuss these and some of the newer processes later. (*R-478, Yorkshire, England*)

Figure Carding Production Right

Many different formulas can be found to calculate carding production, but most of them have to be adjusted for different factors to get the desired results. After analyzing various formulas and making tests on actual operations, we found that the following formulas gave correct results.

To find tension draft between doffer and coiler calender roll with a 2-in. diameter coiler calender roll, 27.75-in. diameter doffer plus 0.75 in. allowed for clothing, 214-tooth doffer gear; 21-tooth card calender-roll gear, 23-tooth coiler driving gear; 17-tooth post gear; 21-tooth coiler calender roll; and 18-in. feed-roll diameter:

$$\frac{2}{27.75} \times \frac{214}{21} \times \frac{23}{17} \times \frac{21}{18} = 1.1593 \text{ tension draft.}$$

To find card-production constant for pounds per hour at 100% efficiency:

$$\frac{27.75 \times 3.1416}{36} = 2.4216 \text{ yd. per turn of doffer.}$$

$$\frac{2.4216 \times 1.1593 \times 60 \text{ (min.)}}{7{,}000 \text{ gr. per yd.}} =$$

0.0241 production constant per card hr.

To find production per card hour

Another Exclusive *Southern Eye*

Something Entirely New—A Full Tension, First Pick, Streamlined Shuttle Eye that has everything.

The Southern 1200 *Series*

The travel of the filling is Directed, —not left to Chance.

The filling is "pulled in" the Anti-Ballooning Scroll. Guided into the Tension Pads—Slips under the Bill—The yarn becomes trapped,—cannot flip out as it is under *full* tension. This all takes place within a few inches of shuttle travel.

On Second Pick

the filling slides with great velocity along the wing leg and is instantly caught in leg trap from where it is compelled to run smoothly and under even tension until next bobbin change.

Completely universal for every kind of yarn.

The Yarn being always "Directed," assures the above functions repeating themselves unerringly,—unfailingly.

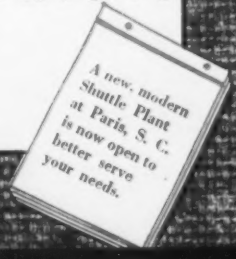
Avail yourself of the full knowledge of this new era in Shuttle Eyes. Interesting data will be gladly sent without obligation.

Southern Shuttles Division

(Shuttle Headquarters)

of **Steel Heddle Mfg. Co.**

621 East McBee Avenue, Greenville, South Carolina



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(The new saddles and cap bars that never need lubrication)

Dixon Saddles are in use everywhere in textiles! Whatever your saddle requirements, Dixon can supply them. More than 400 different types of saddles . . . 350 different stirrups . . . 275 different levers . . . 35 different lever screws . . . all of these and more are available at Dixon — saddle headquarters for the industry.

On request Dixon engineers and makes special assemblies for weighting and guiding top rolls, according to individual mill requirements. Write or call us about this service — today.

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DIXON
LUBRICATING SADDLE CO.
Established 1876
BRISTOL, RHODE ISLAND

Round Table

(Continued)

with a 9.26 doffer rpm. and 56-gr. sliver:

0.0241 × 9.26 × 56 = 12.50 lb. per hr. at 100% efficiency; 12.50 × 90% = 11.25 lb. per hr. at 90% efficiency
(R-482, M. G. Tate, supervisor cost department, Riegel Textile Corp., Ware Shoals, S. C.)

Fibers Fabulous, Fanciful, and Factual

(Confessions of a Scientist)

COTTON

So you're mad about cotton,
That fiber called "King"—
So tough and so sturdy
In piece goods or string!
You soil it, then boil it,
It's fresh as a daisy—
To wear anything else next
Your skin would be crazy.

RAYON

Or is rayon your fiber
Man-made or synthetic—
To make products of nature
Look purely pathetic.
With new miracle yarns
So strong, dull or bright,
The girls loook like millions
Yet dress on a mite.

WOOL

Perhaps wool is your idol
Pure virgin or used,
Forever so springy
It keeps you enthused.
It's warm when you're cold
And cool when you're hot,
For one curly fiber
That's saying a lot.

SILK

Or is it that silk
Is truly your queen,
Pure dye or part weighted,
Boasting richness and sheen?
Luxurious to handle,
A natural to drape,
Yet no girdle is needed
To make it hold shape.

But aren't we forgetting
The faults and the fact
That all fibers and fabrics
Misbehave and react?
And sooner or later
They all stretch and sag—
What once was a garment
Then looks like a bag.
For some hate the water,
And back up and shrink,
While others are rugged
But develop a stink.
Be they rayon or wool
Silk, nylon or cotton,
From trees, fields or worms
At times they're all rotten!
(R-480, J. B. Goldberg, New York)

An example of Penicillium. Magnification 36x.

Are you interested in reducing machine "down" time?

Loss of tensile strength and resulting loom down time is often caused by bacterial attack of sizing materials. Modern chemistry has provided a way to control such losses in material and machine time caused by mold and bacteria. The use of Dowicides—Dow germicides and fungicides—not only prevents decomposition of the sizing solutions, but protects the sized yarns as well.

The addition of the proper Dowicide in sizing solutions makes yarns mold resistant. This is of particular value where long time strength is necessary such as in the manufacture of rug and linoleum backing yarns and tire cord. Dowicides prevent microbial attack from reducing strength of the yarns both in processing and in use.

Investigate Dowicides now. Find out how these effective germicides and fungicides can help cut material losses and machine down time. Complete laboratory facilities are maintained by Dow to help you solve your bacterial and mold problems. Contact your nearest Dow office or write direct to Midland.

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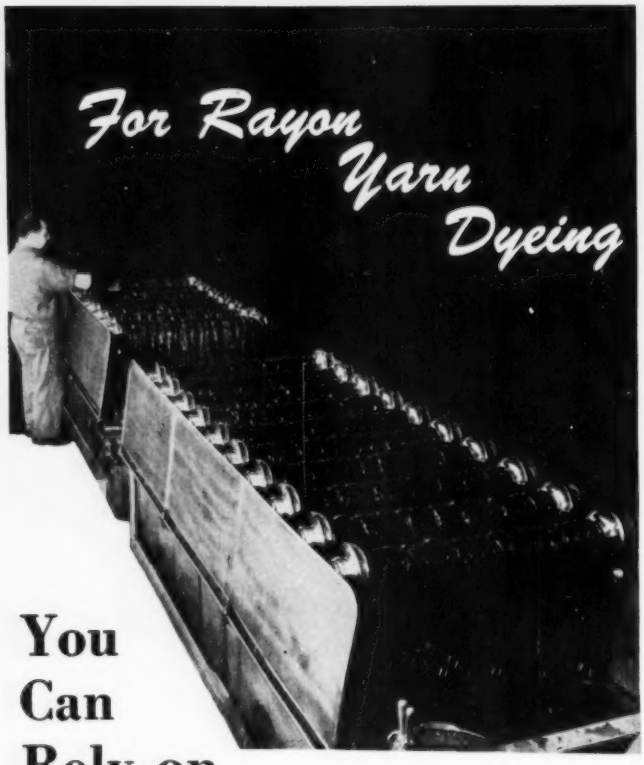

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For synthetic yarns Globe affords an efficient dyeing service to meet the growing requirements of many exacting customers.

Yarns we process also include cotton, rayon, worsted, nylon, blend and novelty yarns.

1865 Globe DYE WORKS CO. 1949

4500 WORTH STREET PHILA. 24, PA.

Questions AND Answers

Textile Designing Requires Training

Technical Editor:

Have you any information or booklets on how to assemble the chains for a Crompton & Knowles 4x4 box loom in order to create different patterns using various numbers of shuttles? (9315)

In order to make a chain draft for a 4x4 Crompton & Knowles loom, you must first determine what pattern you want to weave. A box chain may be made to weave an unlimited number of patterns. Some knowledge of textile designing is necessary.

It probably would be best to send a sample of the fabric you wish to make to someone who is familiar with woolen or worsted designing. With a sample to work from, the designer would be able to lay out a box-chain draft and the proper method of assembling.

There are a number of books on textile designing that might be helpful.

Do Monofilament Warps Require Drawing-In?

Technical Editor:

Can drawing-in be avoided on monofilament warps? In other words, if a new monofilament warp is to be entered into the loom to follow another monofilament warp that is running out, can the ends be tied in or twisted in or must they be drawn in? (9316)

Monofilament yarns, except those of finer diameters, are too smooth and not pliable enough to be handled on a twisting or knotting machine or to be twisted in by hand. The customary method for preparing new warp mounts is to enter all warps.

Entering can be accomplished rather fast by the use of a double hook to draw-in through two heddles and two drops in one motion. The warp is hung back of the entering frame, and no lease is used. The enterer, after inserting the two-prong hook through the heddle eyes and drops, hooks a yarn end on each of the prongs

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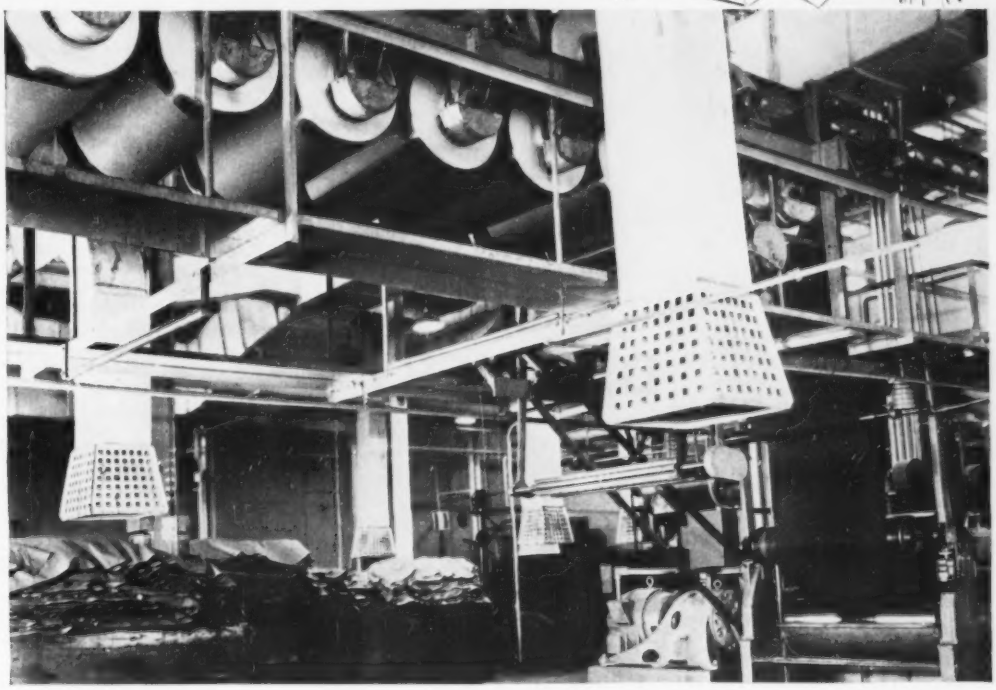

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Modern high-speed textile production leans heavily on its equipment for the maintaining of its profit margin. "Down-time," cleaning and maintenance time, spoilage or imperfects . . . these cut heavily into profits. And, too, short equipment life will eat into capital itself.

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It will profit *you* to check with your equipment manufacturer or write for booklet B-444.

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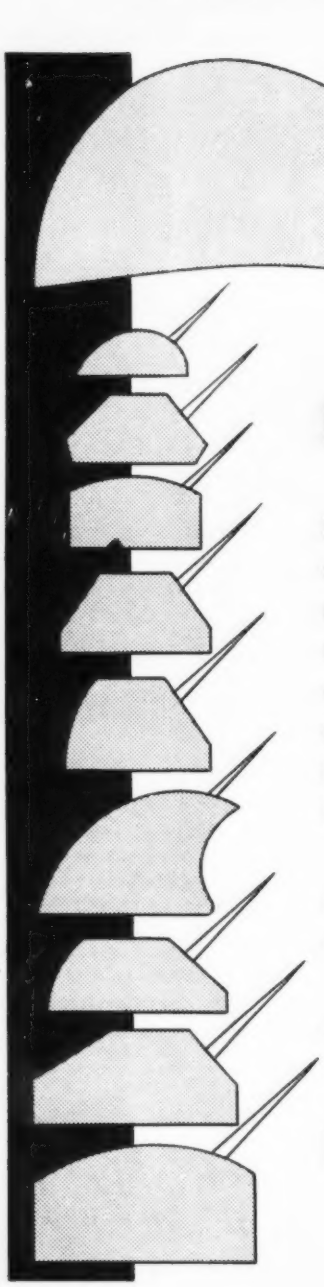

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Questions and Answers

(Continued)

and pulls the ends through. By the use of the double hook, a practiced enterer can reduce the entering time to nearly half.

Rarely will monofilament yarn tangle into stickers behind the drops, since the yarn is stiff and highly glazed. This characteristic of the yarn is one reason why the customary leases are left out when the yarn is beamed.

It should be possible to tie in new yarn to the old yarn, as done on some of the rug-weaving machines. Instead of the enterer reaching over the harness shafts, he could stand at the back of the loom. If he does tie in from the back, the drops should be moved up near the shafts and sufficient old yarn left behind the drops for tying in. The new yarn would come over the whiproll and be tied near the whiproll.

Tape could be used to keep the ends in line and prevent them from crossing. The usual weaving splice for a two-end tie-up would have to be used. Knots pulled through in a fairly loose condition should pass through heddles and reed without too much trouble.

This method is only a suggestion. On weaves having approximately 750 ends or less, tying could be accomplished faster than entering and reeding.

How Do You Determine Fabric Boardable Width?

Technical Editor:

What do you consider the best method of determining the boardable width of a roll of knitted fabric? Is extensive trial and error the most direct solution to this problem? (9318)

Determining the boardable width of a roll of knitted fabric is done largely by trial and error. However, this formula affords some guidance: 4 × yarn diameter × (No. of needles ÷ 2).

For example, what would be the correct spread for a fabric knitted on a 28-in. cylinder, 22 cut, 1920 needles from 30s yarn?

The diameter of the yarn is 1 ÷ (21 × the square root of 30). Worked out, the equation is 1 ÷ (21 × 5.477), or 1 ÷ 115.02.

Substituting values in the formula, we have: 4 × (1 ÷ 115.02) × (1920 ÷ 2). Working out the formula, we get 3840 ÷ 115.02 = 33.38 in. boardable width.

This example applies to flat latch-needle knitted fabric.

From a practical standpoint, most mills begin with the theoretical spread

Rayon Reports

Prepared Monthly by American Viscose Corporation, New York, N.Y. — August, 1949

Rayon-and-Wool Men's Suits Coming this Fall for Year-'Round Wear

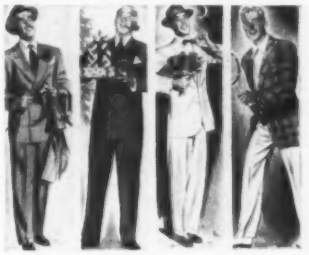
This fall, for the first time, men's stores will offer rayon-and-wool suits for year-'round wear. Several large mills are now making such suitings, in medium weights, in blends ranging from sixty to eighty per cent rayon.

These rayon-and-wool suitings, now being made up, are thirteen-and-a-half to fifteen ounce worsted-type fabrics, most of which are made on the cotton system. However, a variety of constructions on the woolen and worsted systems have been worked up both by the trade and by Avisco's Fabric Development Department.

Rayons accounted for 17 per cent of the total men's summer suit volume last year and it is indicated that this percentage will swell to 23 to 28 per cent this year and 35 to 40 per cent next year. Rayon blends also are giving every indication of increasing the total volume of men's suit sales, just as rayon long ago multiplied the number of dresses the average woman buys. More recently rayon and rayon blends have broadened the sportswear markets generally, including both shirts and slacks. Similarly rayon blends have stimulated business in topcoats and raincoats.

The high price of fine apparel wools, of course, is focusing interest in blends of wool with rayon. This is especially true since the use of crimped rayon staple, because of its superior carrying power, increases the spin limits of the coarser, and less expensive, wools. Furthermore, rayon-and-wool blends are easier to process than most grades of wool.

Of prime importance are the many new styling possibilities in the use of rayon. Rayon summer suits have enjoyed a good season due to the unbeatable combination of appearance, performance and price.



One of the current ads building consumer acceptance for rayon in year 'round men's suitings.

RAYON 20 YEARS AGO

PARIS, August, 1929—The new rayon fabrics for the winter season are now on display. Early Victorian, Spanish and Mexican designs are prominently featured.

LONDON, August, 1929—Printed rayon velvets are popular in fashion circles, here. Small, compact designs are most favored.

NEW YORK, August, 1929—Knitters are using rayon in increasingly large quantities in the manufacture of neckties. Recent improvements in rayon yarn quality are responsible for this increased interest.

MAKE USE OF *Avisco* 4-PLY SERVICE

To encourage continued improvement in rayon fabrics, American Viscose Corporation conducts research and offers technical service in these fields:

1 FIBER RESEARCH
2 FABRIC DESIGN
3 FABRIC PRODUCTION
4 FABRIC FINISHING

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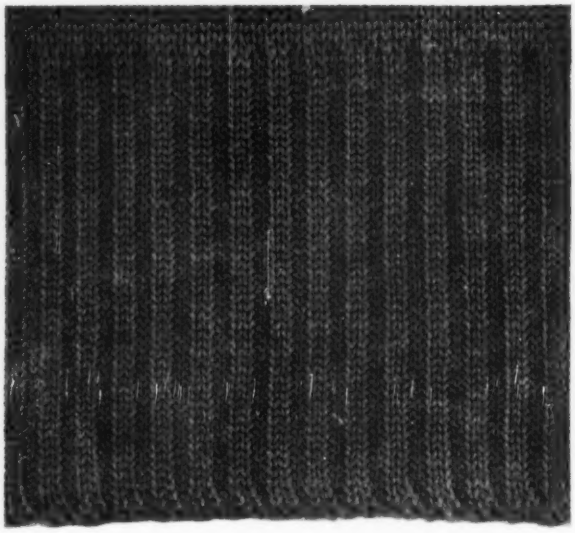
Sales Offices: 350 Fifth Avenue, New York 1, N. Y.; Charlotte, N. C.; Cleveland, Ohio; Philadelphia, Pa.; Providence, R. I.

The SWEATER with the

"Perfect Racked Edge"

As Knit on the

LEIGHTON TRANSFER MACHINE



Note the even, straight edge on the sample cuff above—distinctive of LEIGHTON'S SPLIT PLATE TRANSFER MACHINES with its "Perfect Racked Edge".

The absence of a welt stitch in such a Racked Edge results in a more Flexible edge—an edge which will "give" and yet will hold its shape.

Perfect Racked Edges are adaptable to either 1 & 1, 2 & 1, or 2 & 2 Cuffs.

Also available are such Leighton features as:—selective rack, two or three finger stripers, separating course, and individual stitch adjustments.

See the Leighton Transfer Machines in operation and see the "Perfect Racked Edge".

LEIGHTON MACHINE COMPANY — LEIGHTON — MANCHESTER NEW HAMPSHIRE

ESTABLISHED—1873 — INCORPORATED—1894

Questions AND *Answers*

(Continued)

and try various others. The fabrics are given wash tests, and the spread that gives the best results in fabric length and width is used.

In general, the following rules are usually of some help:

Flat latch-needle fabric — spread 12% over head size.

Flat spring-needle fabric—spread to head size.

Tuck-stitch fabric—spread 35 to 40% over head size.

1 × 1 rib fabric—spread 10% under head size.

These spreads, of course, are dependent on knitting on a cut suitable to the size of the yarn.

Average Loom Stops Cut Production 10%

Technical Editor:

We are thinking of erecting a plant to spin and weave cotton textiles. We would like to start by weaving 50,000 yd. per week of broadcloth with 60 picks per inch similar to the inclosed sample. How many looms would we need? (9319)

It would take 125 looms running 80 hr. a week at 180 p.p.m. to weave a fabric like the sample. This figure is based on 100% production. You would be wise to make about a 10% allowance for loom stoppage.

Lustrous Pile Fabric May Require Rayon Yarn

Technical Editor:

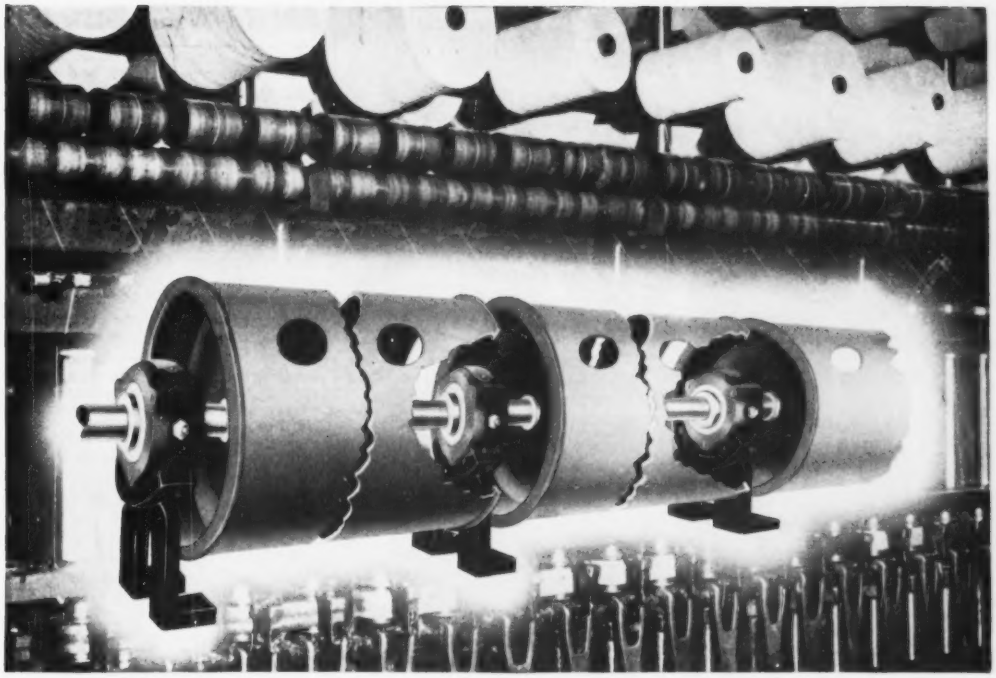
Is it possible, without going to great expense, to reproduce the inclosed sample of all-rayon transparent velvet with cotton yarn? Could the setup of reeds, harnesses, etc. now in the looms be used; or would changing over to cotton require a new setup and possibly a change of cams? (9321)

It would be possible to change to equivalent counts of cotton yarn and use the same construction, but the results may not produce a satisfactory fabric. The type of cotton, turns per inch, and other factors will have a bearing on the appearance of the woven fabric.

In order to save time and money in experimenting, secure a sample of a cotton velvet that has the desired appearance and use that fabric construction.

If you cannot locate a satisfactory sample of cotton velvet, you can, of course, weave a few samples and arrive at the construction you need. It's almost certain that you will not exactly duplicate the inclosed sample.

In case you do try various cotton yarns and cloth constructions, it may be well to include one or two woven



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. . . *With Southern States Ball Bearing Cylinder Unit*

THE installation of these units on your cylinders means to you higher cylinder speeds — less power consumption — simplified lubrication problems and smoother operation through reduction of friction, heat and wear. Southern States Equipment Corporation's cylinder bearing is equipped with an SKF self-aligning double row ball bearing with extended race, designed specifically for the textile industry. Increase the efficiency of your old frames with this comparatively simple, low cost installation of ball bearing units on your cylinders.

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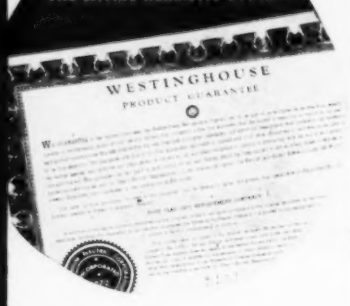

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YOU CAN BE SURE..IF IT'S Westinghouse

Questions and Answers

(Continued)

with cotton ground fabric and rayon pile. As you know, the rayon pile is more lustrous, stands up better, and is less easily crushed than a pile made of equivalent cotton yarn.

Slipping Ladders Held With Cleats

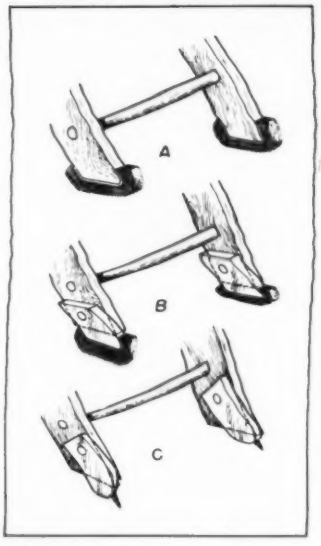
Technical Editor:

In changing the jacquard cards on our looms we use ladders with spurs to grip the floor and to prevent the ladders from slipping. These spurs cut the wooden floors, and we would like to know if there is a ladder with non-slip feet. Our floor is very oily, and the different types of feet we have tried do not hold. The men are afraid to go up on them. (9312)

Safety ladders with suction shoes to prevent slippage on oily floors can be bought. The shoes themselves can be bought and attached to any standard ladder rails.

Some mills have devised their own safety catches. Card clothing or the spikes you now use will work satisfactorily. The three accompanying sketches show the details of construction.

Of the three sketches shown, sketch *B* probably would be the best solution. The objection to solution A, where



LADDERS SLIPPING on oily floors can be avoided by the use of one of the ideas illustrated here. Sketch A shows card clothing tacked on the bottoms of the ladder rails. Sketches B and C show card clothing and spikes attached to swing arms to catch to the floor in case the ladder slips.

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Hickory, N. C. 1365-L
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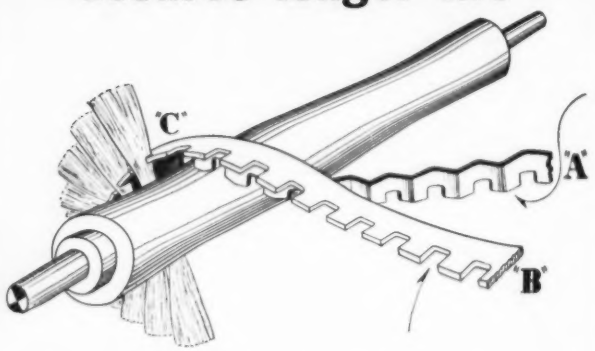

How Bristle Is Wound on JENKINS' METLKOR* Brushes

"A"—a metal strip wound edgewise around the metal core, supporting - - -

"B"—a similar notched metal strip - - -

"C"—where tufts of bristle are inserted and sealed in place with special plastic cement, which seals metal strips "A" and "B" completely, surrounds and penetrates the base of the tufts, and makes "Metlkor" brushes permanently solvent-proof, easy to clean, ideal for applying color, for raising and laying, etc.

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Cedar Grove, Essex County, New Jersey

Questions and Answers

(Continued)

the card clothing is tacked on the bottom of the ladder rails, is that the weight of the man on the ladder will quickly bend the card-clothing wire. Solutions *B* and *C* both require the use of swing arms fastened to the rails. In locating these arms on the rails, it is necessary to let them extend a little beyond the bottom of the rails. They must strike the floor a few inches from the rails and at an angle that will cause them to dig in if the ladder slips.

Spinning-End Breaks Trouble Mexican Mill

Technical Editor:

We manage a cotton mill in Mexico and are interested in knowing if there is any standard in the United States for the approximate number of ends down or yarn breaks that should occur per 1,000 spindles per hour. We run our mill with new Saco-Lowell machinery and have the best conditions. (9313)

There is no standard for ends down per 1,000 spindles per hour in the mills in the United States. So many factors influence ends down that such standardization is not practicable.

In general, 20 ends down per 1,000 spindle hours is a good average. With new machinery, a fair quality of cotton, and good humidity control, you should be able to hold your average somewhere near 20 ends per hour. Thirty ends is a little excessive unless a mill is running a low-grade stock—say, osnaburg or denim. Even on these stocks, an average much above 30 ends per hour is uneconomical in the United States.

What pH Is Best For Laundering Woolens?

Technical Editor:

Could you tell me what is the optimum and maximum pH for safe washing of woolens, rayons, etc.?

Is there any literature available on detergents as they are applied to textiles?

Is there an inert or neutral pH chemical for adding bulk to concentrated (heavy) detergent chemicals? (9322)

The pH for safe domestic laundering of wool fabrics should not be above pH 10; temperature should not be over 110° F. With detergents giving a pH of not higher than 8, temperature should not exceed 120° F.

No books have been published on detergents as they are related to textiles, but there is a wealth of information scattered throughout textile magazines.

The most common inert pH chemical for adding bulk to concentrated detergents is sodium sulphate.

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TEXTILE INDUSTRY

CONDULETS*

The illustrations show a representative selection from the thousands of types and sizes that are listed in Crouse-Hinds Condulet catalog. There is a wide variety of highly specialized types in each classification: CONDULETS for use in non-hazardous locations; VAPORTIGHT CONDULETS for use where exposed to weather, moisture, steam or non-combustible dust; DUST-TIGHT CONDULETS for use where combustible dust creates hazardous conditions; and EXPLOSION-PROOF CONDULETS for use in flammable atmospheres.

FLOODLIGHTS

Floodlights provide the most efficient method of lighting industrial yards, auto parking lots, athletic fields and play grounds. Usually it will cost much less to project light a considerable distance with Crouse-Hinds floodlights than to run cable and install local lighting.

The illustrations show two of the most widely used floodlights selected from the dozens in Crouse-Hinds complete line.

Write for additional information.

**CONDULET is a coined word registered in the U. S. Patent Office. It designates a product made only by the Crouse-Hinds Company.*

Type VS Vaportight Hand Lamp with Rubber Handle

Type MDB Floodlight 500 — 1000-Watt

Type ARRC Condulet with Arktite Receptacle and Threaded Cover

Type APJ Plug with Fastening Ring

Type MUA Alumalux Floodlight 750 — 1500-Watt

Type DVSP Dust-Tight and Vaportight Panelboard

Type EVA Explosion-Proof Lighting Condulet

Type DLA Dust-Tight Lighting Condulet 100 — 200-Watt

Type FSC Two-Gang Vaportight Switch Condulet

Type C Obround Condulet

Type GRF Condulet

Type FS Vaportight Push Button Station Condulet

Type LB Obround Condulet

Type UNH Hook Flexible Fixture Hanger

Type ALC Cushion Flexible Fixture Hanger

Type UNJ Ball Flexible Fixture Hanger

Type FSC Vaportight Plug Receptacle Condulet

Type AHG Vaportight Flexible Fixture Hanger

Type FOH Hanger for Fluorescent Lighting Fixtures

Type VDA Vaportight Lighting Condulet 50 — 200-Watt

Type VDB Vaportight Lighting Condulet 300 — 500-Watt

A Nationwide Distribution Through Electrical Wholesalers

CROUSE-HINDS COMPANY

Syracuse 1, N. Y.

Offices: Birmingham — Boston — Buffalo — Chicago — Cincinnati — Cleveland — Dallas — Denver — Detroit — Houston — Indianapolis — Kansas City — Los Angeles — Milwaukee — Minneapolis — New York Philadelphia — Pittsburgh — Portland, Ore. — San Francisco — Seattle — St. Louis — Washington. *Resident Representatives:* Albany — Atlanta — Baltimore — Charlotte — New Orleans — Richmond, Va.
CROUSE-HINDS COMPANY OF CANADA, LTD., *Main Office and Plant:* TORONTO, ONT.

CONDULETS • TRAFFIC SIGNALS • AIRPORT LIGHTING • FLOODLIGHTS

HOW TO GIVE YOUR FLOORS A FUTURE

(Above) Dark oil-soaked floor maintained by scrubbing. (Right) Similar area, same dirt conditions, but TENNANT dry-cleaned.

An example of results you can get with the

TENNANT *System* OF FLOOR MAINTENANCE

To be SURE of bright, easy-to-clean floors in your mill—both now and for *years* to come—no other maintenance method is more effective than the TENNANT SYSTEM.

It not only reconditions dark, spongy, water-softened floors . . . it restores original brilliance . . . hardens, seals and *protects* against dirt and traffic . . . cuts cleaning costs.

KEEPS FLOORS BRIGHT by fast mechanized dry cleaning. Eliminates scrubbing.

MAKES FLOORS EASY TO CLEAN. Dirt cannot readily adhere to smooth-sealed floors. Wipes off easily.

CUTS MAINTENANCE COSTS by saving manhours. Floors clean up like magic and stay clean much longer than when scrubbed. Floors stay dry, hard, lustrous; reduces slip hazards.

G. H. TENNANT CO.
2586 North Second Street
Minneapolis 11, Minn.

Write today!
Get typical case histories, photos, and NEW bulletin "How to Get Better Results In Textile Floor Maintenance."

TENNANT FLOOR MAINTENANCE *System*

Established 1870

OFFICES IN PRINCIPAL CITIES

Textile Equipment News

(*Continued from page 166*)

air pressure remains constant between 20 to 30 lb. The water pressure governs the capacity of the humidifier head while the air pressure governs the atomization.

The humidifier head is said to be self-cleaning. A clean-out pin, controlled by the water under pressure, operates on a constant-floating principle while the head is in operation. The clean-out pin is drawn out of the water orifice when the water pressure is off. When water is turned on, the clean-out pin becomes flush with the outside of orifice in the water tip and remains there on a constant float while the water is on.

Dirt which enters the head while the clean-out pin is in operation lodges between the water-tip wall and the clean-out pin. The clean-out pin is forced forward by the water, and this movement tends to grind the dirt between the wall of the water tip and the clean-out pin until the dirt is ejected by the water under pressure. The clean-out pin then goes back to its normal operating position.

When the humidifier head is used in a system, there is said to be no need of overflow tanks or large pipes to conduct water to the humidifier heads.

The size of pipes can be reduced to practically half the size of those in a syphon-type system, the manufacturer states. By using copper tubing on the water line, there is no possibility of rust forming in the line.

The humidifier head is also designed to atomize water at 40° F. or less with no wet down on floors.

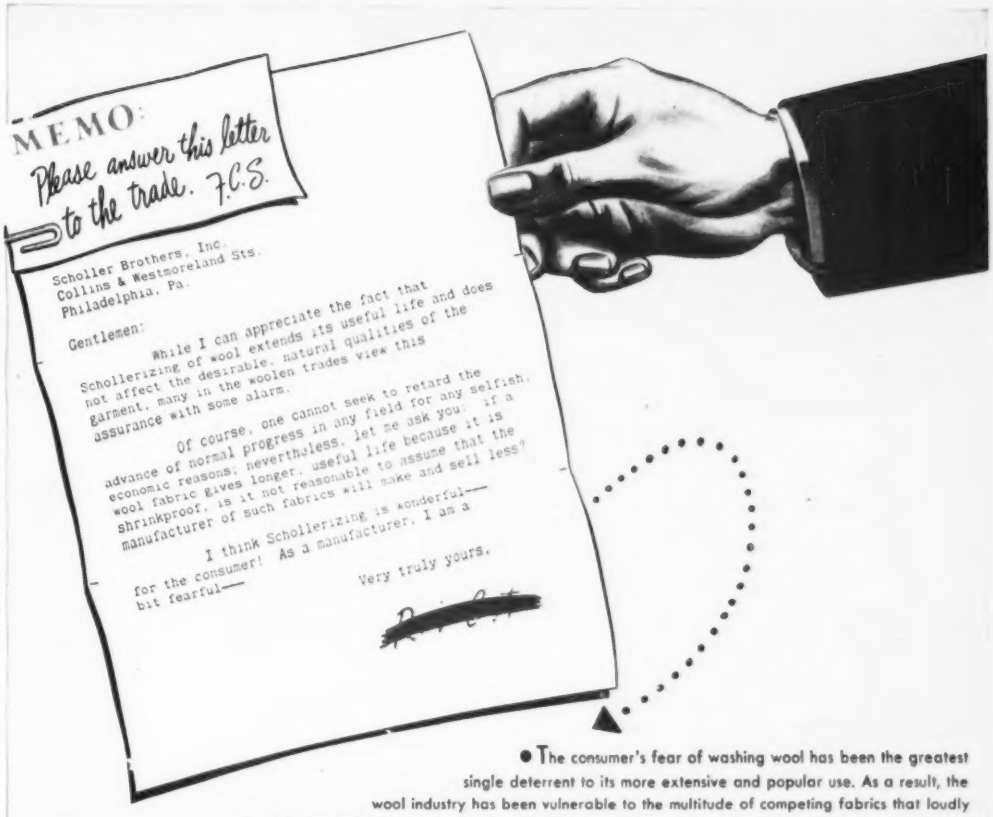
The head, along with system of installation devised by the manufacturer, is in use at the Fitchburg Yarn Co., Fitchburg, Mass. The system has decreased the heat in the mill approximately 18° F.

There is said to be no heavy atomization when the system goes off and on because of a small restriction plug inserted into the top of air and water diaphragm valves. The regulator also controls a diaphragm valve going to the waste line which releases pressure in the water line so that there is no chance of any head spitting or heavy spray as system is in operation, the manufacturer states.

To request further information, please use the card on page C of the Reader-Service Dept.; refer to T-73.

Staplemeter Measures Tippiness of Wool

A device said to measure tippiness and possibly tenderness and break in


MEMO:
Please answer this letter to the trade. F.C.S.
Scholler Brothers, Inc.
Collins & Westmoreland Sts.
Philadelphia, Pa.
Gentlemen:
While I can appreciate the fact that Schollerizing of wool extends its useful life and does not affect the desirable, natural qualities of the garment, many in the woolen trades view this assurance with some alarm.
Of course, one cannot seek to retard the advance of normal progress in any field for any selfish, economic reasons; nevertheless, let me ask you: if a wool fabric gives longer, useful life because it is shrinkproof, is it not reasonable to assume that the manufacturer of such fabrics will make and sell less?
I think Schollerizing is wonderful— for the consumer! As a manufacturer, I am a bit fearful—
Very truly yours,

● The consumer's fear of washing wool has been the greatest single deterrent to its more extensive and popular use. As a result, the wool industry has been vulnerable to the multitude of competing fabrics that loudly proclaim washability—with woolens suffering by comparison.

The increased demand for wool products of every description holds startling potentials as the ultimate consumer becomes increasingly aware of the fact that Schollerized *wool means wool that will not permanently shrink or mat*—wool that will retain its original size and fine natural characteristics *for the life of the fabric.* Yes, wool can now proudly exhibit its truly wonderful inherent qualities without the deterring factor of shrinkage or of physical changes caused by the washtub!

We're all familiar with the usual "life history" of wool socks, for example. Father wears size 10, so he buys size 11 in anticipation of the shrinkage. After a few washings it is reduced to size 9—just about right for Son No. 1 . . . a couple of more washings and socks have become size 8—ready for Son No. 2. After the hand-me-down socks have reached this point, another washing or two has brought shrinkage, matting and felting to such a degree that even if a Son No. 3 were awaiting his turn to own the socks, they would be unwearable! Their useful life ended long before their effective, wearable life!

With Schollerized wool socks, Dad and sons must each buy new socks of the proper size, *the same number of pairs that Dad formerly bought for himself,* but handed down. Now, because the Socks are Schollerized, retaining their new look and other desirable qualities, they *all* enjoy true wool sock comfort for the wearable life of the fabric. What could be more attractive to the consumer!

Today, millions, who *prefer* the advantages of wool socks, can now afford to wear them *because they can be washed* with safety!

More and more, alert manufacturers of every wool product are recognizing the sales potential that Schollerized wool affords.

Schollerized ✻
WASHABLE WOOL
SAFE TO TUB • SAFE TO RUB

SCHOLLER BROTHERS, INC.

Manufacturers of Scouring, Dyeing and Finishing Materials

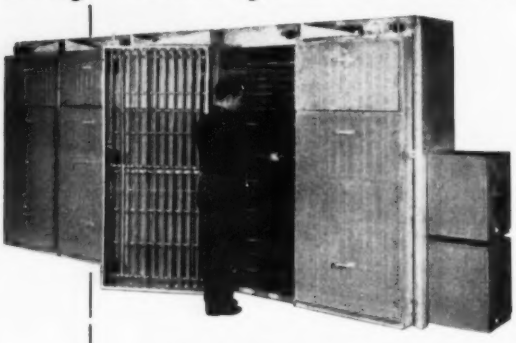
COLLINS at WESTMORELAND, PHILADELPHIA 34, PA.

IN CANADA: SCHOLLER BROTHERS, LTD., ST. CATHARINES, ONTARIO

Write Today for Full Details On The Amazing Scholler Wool Shrinkage Control Process, applied to YOUR product!

*U. S. & Foreign Patents Pending

You pay for Super-Clean Air only when you don't have it!



AAF Electro-Cell Precipitators soon pay for themselves by protecting equipment, product and personnel

DUST, soot and dirt can injure plant equipment—impair product quality—increase rejects and seconds. That's what costs you money! That's why you pay for super-clean air only when you don't have it.

Wise mill owners eliminate these impurities with AAF Electro-Cell Precipitators. With super-clean air, rejects go down—profits go up. Super-clean air soon pays for itself through increased protection and increased production.

AAF Electro-Cell is an electronic precipitator of exclusive design that removes dust and smoke particles of even tiny sub-micron size. Proven advantages of Electro-Cell:

★ Filtering efficiency up to 90% in the removal of dust, soot and smoke. Based upon The Bureau of Standards Discoloration Test Method.

★ Design featuring removable collector plates offers choice of maintenance methods—removing cells for servicing in special cleaning tank, manual washing and re-oiling in place or automatic cleaning in place without interruption of operation.

★ Sectional construction that reduces weight of parts—eliminates many electrical connections—protects wiring from dirt and water.

★ Full-height hinged or removable ionizers that minimize electrical losses—reduce ozone—simplify replacement of ionizing wires.

For complete information, get in touch with your nearest AAF representative or write for Bulletin No. 252. No obligation, of course.

AMERICAN AIR FILTER COMPANY INC.

304 Central Ave., Louisville 8, Ky.

In Canada: Darling Bros., Ltd., Montreal, P.Q.

AAF

AIR FILTERS

AND DUST CONTROL EQUIPMENT

wool has been developed at Massey Agricultural College, Palmerston North, New Zealand.

Known as a Staplemeter, the instrument is based on a photoelectric cell which measures the amount of light reflected from different regions of a wool sample. The sample is exposed to light at equal intervals of its length. It has been proved by experiment that changes in the amount of light reflected from each region of the staple are mainly due to changes in the number of fibers and their diameters.

To request further information, please use the card on page C of the Reader-Service Dept.; refer to T-74.

Hosiery Seamer Is Pedestal Mounted

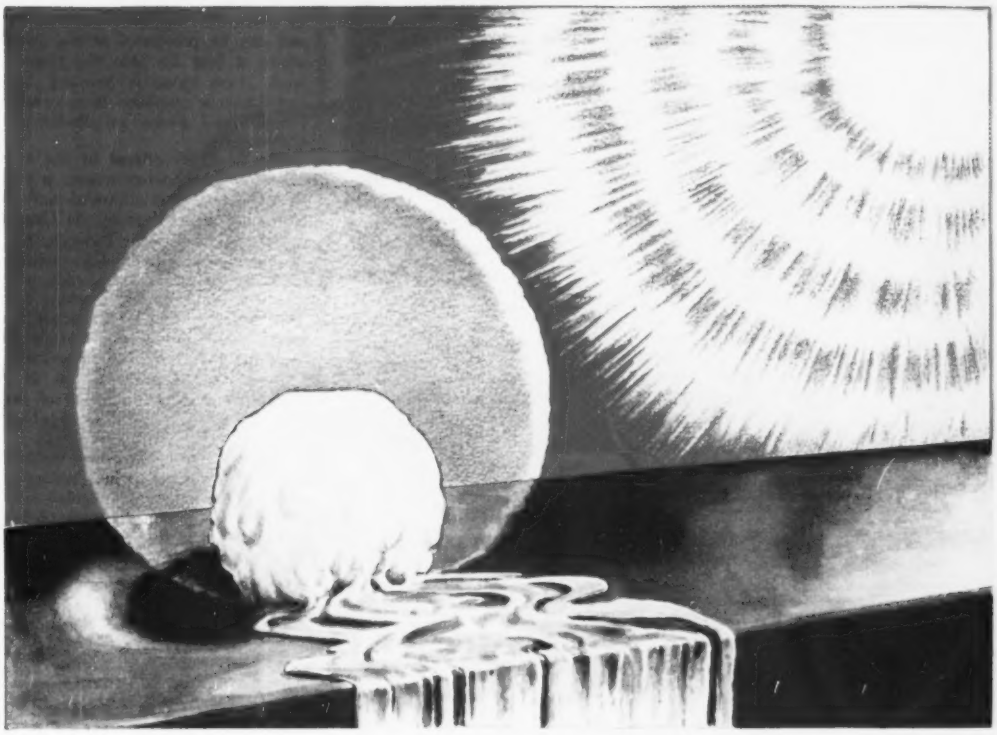
ADJUSTMENT TO INDIVIDUAL HEIGHT of operator provided by this pedestal-mounted seamer is said to raise production and quality.

A new pedestal-mounted hosiery seamer is being manufactured by Union Special Machine Co., Chicago, Ill.

Advantages of the new pedestal hosiery seamer start with increased comfort for the operator. With her chair facing the treadles on the base of the machine, the operator assumes a natural sitting position in relation to the treadles, and the machine is adjusted accordingly. Both the operating treadle and the cup-opening treadle are adjustable forward and backward. In addition, the sewing head is adjustable vertically and horizontally so that the operator can choose the proper height and position.

Tangible results of providing the operator with a more natural and comfortable working position are said to be reduced operator fatigue and increased production.

The new model does not have to



Troubles melt like a snowball in the sun

There's no cure-all for finishing and dyeing troubles.

The variables that occur with almost every lot coming to your mill create daily problems for the men in charge of finishing operations.

Many of your dyeing and finishing troubles, however, melt like snow in the sun when you use Diastafor brand de-sizing agent—Type L. Diastafor—Type L is the all-purpose de-sizing agent that has been especially developed to help bleachers and dyers keep finishing headaches to an absolute minimum.

In fact, Diastafor users say its special values show up best on really difficult finishing jobs!

Diastafor—Type L works well and gives good results in an unusually wide range of temperatures and pH. This flexibility gives you the help you need when you have a "problem lot" to finish, or when variables in water or in sizing formulas create unexpected difficulties.

Diastafor will give you a good hand and a fine finish on cottons, rayons or mixed goods. It helps prevent streaky, uneven dyeing. The tensile strength of the fabric is never impaired. Diastafor will give you good results in continuous de-sizing.

The experience of our technical staffs has often proved valuable to our customers in solving finishing problems. They'll be glad to give you their help at any time, without obligation. Standard Brands Incorporated, *Diastafor Department*, 595 Madison Avenue, New York 22, New York.

DIASTAFOR

A TRADE MARK OF STANDARD BRANDS INCORPORATED

Floor of **MFMA** Northern Hard Maple in Robbins Cloth Mills, Inc., Robbins, N. C. Photo by courtesy C. M. Guest & Sons Greensboro, N. C

for long-run
resilient ECONOMY
NORTHERN HARD MAPLE

● When your architect or engineer recommends Northern Hard Maple Flooring for your new mill, he's proving that he has your very best interests in mind. He *knows* that **MFMA** trademarked Northern Hard Maple is the soundest of all specifications for textile mill floors.

Cotton, silk and rayon mills, North and South, have furnished the proof through generations of faithful service, that Northern Hard Maple makes the finest of floors for their exacting needs. Its grateful *resilience* underfoot makes it the workers' favorite. A person can stand, work and walk on it in comfort for hours, with less fatigue—which means fewer accidents and mistakes. It's bright, sunny, cheerful. A brush keeps it clean. It doesn't sliver, resists dents and scrapes and the pound of truck wheels.

Northern Hard Maple Flooring means definite economy, too. ALL grades are good grades—**MFMA** Second Grade, **MFMA** Third Grade, all sizes and thicknesses, have their logical places in mill floors. All are association-supervised and guaranteed as to millwork, scientific kiln-drying and, most important of all, guaranteed as to *species*. The **MFMA** trademark assures all this.

See Sweet's
Section 13/g/6, for catalog data: Ask for *new literature* on floor maintenance and write us if you have any floor problems.

MAPLE FLOORING MANUFACTURERS ASSOCIATION
Room 392—46 Washington Boulevard
OSHKOSH, WISCONSIN

FLOOR WITH *NORTHERN* HARD MAPLE
BEECH AND BIRCH

be fastened to the floor; thus it may be adapted to any room arrangement and can be positioned at the point where it best fits into the flow of work. Less space is required, and installation is simplified because table erection and motor installation are eliminated.

The flexibility offered by the new pedestal-model hosiery seamer is said to make possible an improved method of hosiery manufacturing. At Claussner Hosiery Company, Paducah, Ky., the looping and seaming department is organized in group units, each unit consisting of a looping machine and three pedestal seamers. Stockings are transported from one operation to the other by means of C-shaped rods from which stockings, in lots of a dozen, are suspended. Much of the extensive stocking handling is eliminated.

Advantages of the new method noted by Claussner include reduction of the percentage of irregulars and seconds, elimination of much of former loss and waste, and a saving of approximately 20% of floor space.

To request further information, please use the card on page C of the Reader-Service Dept.; refer to T-71.

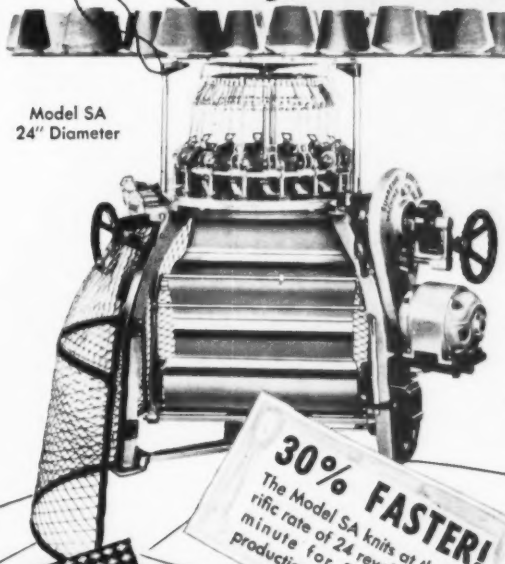
Portable Unit Shows Temperature and Humidity

***DIRECT READINGS** of relative humidity can be obtained by this portable instrument.*

A portable electric humidity and temperature indicator for making direct readings of percentages of relative humidity and temperature in °F is being manufactured by Bucnsod-Stacey, Inc., 60 E. 42nd St., New York 17, N. Y.

The reading dial of the indicator has two scales. The upper one is cali-

SUPREME'S MODEL SA
THE WORLD'S FASTEST AUTOMATIC STRIPER...



Model SA
24" Diameter

KNITS DOLLARS FOR YOU

NO OTHER STRIPER GIVES YOU ALL THESE EXCLUSIVE MONEY-MAKING FEATURES.

- **New, Ingenious Automatic Striping System*** . . . Gives you world-beating production efficiency, versatility and durability.
- **Stationary Yarn Stand** . . . Assures trouble-free operation at continuous, super-fast knitting speeds. The cylinder and take-up revolve.
- **Automatic, Synchronized Cutters On Each Feed*** . . . Clip off the yarn that is going out of action, eliminating all waste.
- **Automatic Pattern Placer*** . . . Available on the SA, it lets you place patterns and plain or striped jersey wherever you want.

Write today for *free* cloth samples and the booklet "Variable Stripes and Plaids Pay."

*Patents Applied For

30% FASTER!
The Model SA knits at the terrific rate of 24 revolutions per minute for 30% greater production.

NO-WASTE!
Synchronized cutters eliminate all yarn waste. Cloth does not have to be reversed for finishing. Buyer gets all cloth for his money.

GREATER FABRIC VERSATILITY!
The Model SA, equipped with Automatic Pattern Placers, knits variable stripes, plaids, designs and "Pattern-Placed" cloth.

SUPREME
KNITTING MACHINE CO., INC.
107 JOHNSON AVE. BROOKLYN 6, NEW YORK, N. Y.

SK-122

Pennsalt Hydrogen Peroxide

with a

1-2 PUNCH

1. Brings up backgrounds to sparkling whiteness!

2. Develops the vat color to a more insoluble state!

More and more manufacturers of woven cotton colored yarn materials such as shirtings or chambrays, are turning to Pennsalt Hydrogen Peroxide (H_2O_2) in their bleaching operation.

That's because, in addition to delivering a 1-2 PUNCH, Pennsalt Hydrogen Peroxide is:

- **SAFE**—*to fabrics—high tensile strength and soft handle.*
- **ADAPTABLE**—*to modern bleaching methods.*
- **ECONOMICAL**—*on the basis of over-all costs.*
- **SUITABLE**—*for all bleaching problems.*

Textile manufacturers find Pennsalt H_2O_2 an ideal bleaching agent for wool, silk, rayon, cotton yarns and woven cotton fabrics.

Our experienced representatives will gladly help with your bleaching problems. Write: Heavy Chemicals Division, Pennsylvania Salt Manufacturing Company, Philadelphia 7, Pa.

PENN SALT chemicals

Other Pennsalt Textile Chemicals

Caustic Soda · Soda Ash · Sulfuric Acid · Hydrochloric Acid · Chlorine · Perchloron · Sodium Hypochlorite · Chlorinated Lime (Bleaching Powder) · Carbon Bisulphide · Ammonium Persulphate · Potassium Persulphate · Anhydrous and Aqua Ammonia

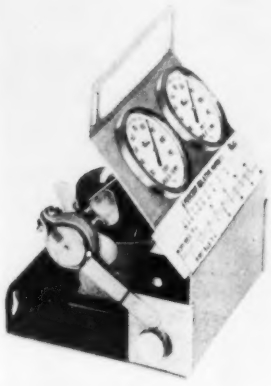
brated in percent relative humidity with a range of 30 to 80%; the lower scale has a range of 40 to 100° F.

The sensing elements are mounted in a screened metal case which can be fastened to an extension rod for taking direct readings at air-duct supply grilles or at any other point in an air-conditioning system. The sensing element may also be attached to the electric cord direct as illustrated.

Accuracy of relative-humidity readings claimed is ± 1½%. Accuracy of temperature reading claimed is ± ¾° F.

To request further information, please use the card on page C of the Reader-Service dept.; refer to T-67.

Humidity Indicator Has Fan Attachment



FAN ATTACHMENT speeds humidity readings.

Accurate humidity readings can now be obtained quickly because of a new motor-operated fan developed for attaching to any Weston relative-humidity indicator. The indicator and fan are produced by Weston Electrical Instrument Corp., 617 Frelinghuysen Ave., Newark 5, N. J.

The small fan, powered by dry cells, is designed to move air over the indicator's wick in sufficient volume to permit obtaining stable readings within 30 sec. This air motion makes possible complete analysis of humidity conditions in textile mills, particularly in and around machinery while it is operating, thus enabling adjustment of humidifiers and air-conditioning equipment for best results.

No calculations are required, as readings are immediately obtained on the instrument's simplified slide rule.

Weston relative-humidity indicators are now available with or without the

For Quality Products

B&C

MERCERIZED YARNS

FOR

Fine Hosiery · Underwear and Other Products

specializing in

30/2	36/2	40/2
50/2	60/2	70/2
80/2	100/2	120/2

COMBED PEELER YARNS

GASSED OR UNGASSED

NATURAL DYED OR BLEACHED

The Quality of Boger and Crawford knitting yarn is guaranteed — the highest tribute we can pay it.
Signed . . . . . .

Frederick Boger

BOGER and CRAWFORD

"J" and EAST VENANGO STS., PHILADELPHIA 34, PENNA., U. S. A.
SPINNING MILLS—BOGER CITY, N. C.
BRANCH OFFICES—BOSTON, MASS., UTICA, N. Y., CLEVELAND, OHIO

Don't Gamble
SNAP!
...To Be Sure Use
Darnell Casters
& E-Z ROLL WHEELS
Extra Value
ANY WAY YOU MEASURE IT
Enjoy the advantages of easily movable equipment, full protection of floors and the elimination of damage to equipment due to wracking — at no additional expense over ordinary casters and wheels.
Free Darnell Manual
DARNELL CORP. LTD. 60 WALKER ST. NEW YORK 13, N Y
LONG BEACH 4, CALIFORNIA 36 N CLINTON CHICAGO 6 ILL

auxiliary fan, or the auxiliary fan can be purchased separately.

To request further information, please use the card on page C of the Reader-Service dept.; refer to T-65.

Soluble Yarns

(*Continued from page 121*)

then removes the alginate, and an all-wool fabric remains. If, when combining the alginate and wool yarn, the twist is inserted in the opposite direction to that in the single wool end, the latter can be left completely twistless. The resulting fabric is lustrous and soft handling, and it need not be unduly weak; in cloths of a suitable construction, tensile strength is due to the interlacing of the yarns rather than to twist, and a cloth composed of twistless yarn can actually be stronger than a similar one made of yarn containing twist.

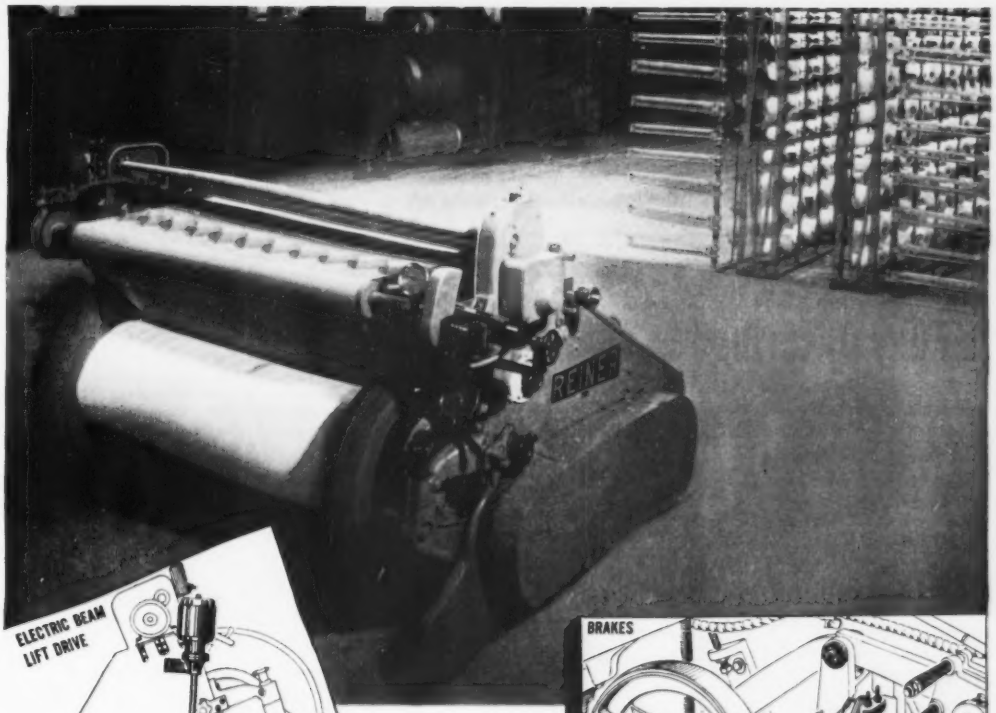
In the manufacture of fancy yarns, soluble yarns fulfill a useful function. These yarns usually consist of three parts—a core, one or more effect yarns, and a binder which is added to prevent slippage of the effect along the core and to reduce the bulk of the yarn. Once the yarn is woven into fabric, the role of the binder is completed, in fact, its presence may prevent the full development of the effect.

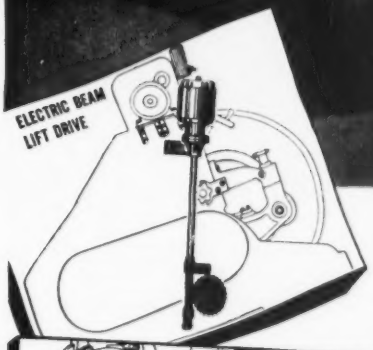
One of the accompanying illustrations, Fig. 1, shows a wool ground fabric with a viscose-rayon fancy yarn, before and after the removal of the alginate binder. In some cases, the core can also be removed after weaving; and only the effect yarn is left in the fabric; an example of this can be seen in Fig. 2.

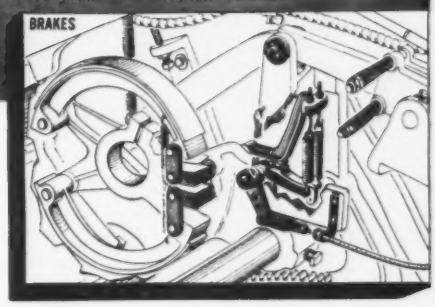
A designer unacquainted with the technique would be at a loss to say how the white slubbing was introduced into the cloth. Again, twistless yarns can be used as ornamentation. Examples of these illustrated are a wool fabric with twistless cotton effect yarn, (Fig. 3), and fringes of twistless cotton on a wool ground (Fig. 4). The latter was produced by weaving long floats, as seen on the left of the picture, followed by trimming.

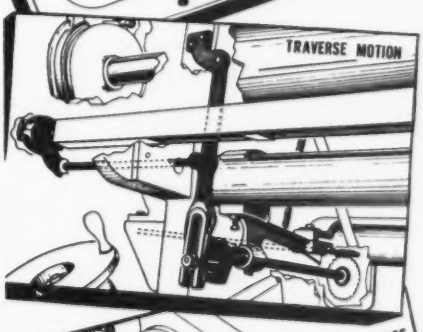
AID MANUFACTURING. In addition to using soluble yarns in ornamentation, they can be used for simplifying manufacturing techniques.

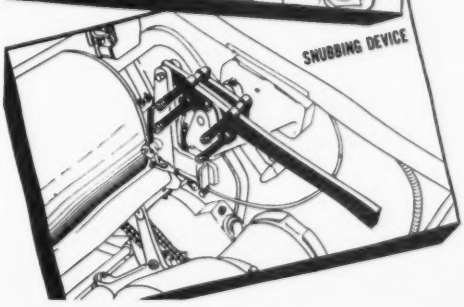
One example is found in the making of loop fabrics, such as imitation astrakans. To produce these, a special complex loom is normally required, with two warps and wires to hold the loops. The effect can be closely imitated by making the loop yarn in the same manner as a fancy yarn, weaving it into the fabric fillingwise, and releasing the loops by removing the











AN EFFICIENT WARPING MACHINE

• All Purpose—Full Width •

designed to warp a fine delicate yarn at high speed without any undue strain on the yarn. It is built for beaming filament rayon, nylon, spun rayon, cotton, woolen, worsted, linen, acetate, etc. A fully illustrated catalog—yours for the asking—acquaints you with the most important features of this reliable and economic warper.

Reiner warping equipment is performing in more mills today than ever before. More than 20 features stress modern design, ease of handling, speed with safety, higher and more economical production. Write for details.

Reiner also offers Magazine Creels with mechanical and electrical stop motion—Single Type Creels—Truck Creels and Special Duty Creels.

Ask for our richly illustrated creel catalog.

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550-564 Gregory Avenue Weehawken, N. J.

Telephone: UNion 7-0502-5

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AUGUST 1949

CARD CLOTHING NEWS and views

Written monthly by E. A. Snape, Jr., President **Benjamin Booth Company** Phila., Pa.

*STRIP-O-MATIC**

Is Fully Described In This New Booklet

To give you all the facts about this truly remarkable and revolutionary Card Clothing, **STRIP-O-MATIC**, we have prepared a new 8-page booklet, yours for the asking. In this booklet we explain the thinking behind, and development of, **STRIP-O-MATIC;** the many savings you get with **STRIP-O-MATIC;** diagramatic drawings of the wire, foundation and plastic face and how they are constructed; and action photographs with actual results of **STRIP-O-MATIC** in plants.

You will find these facts highly interesting, we think.

And now, just a word about one of the many features of **STRIP-O-MATIC.**

That ole debbil, hard work, has killed many a man—*and product.*

But subject **STRIP-O-MATIC** to even the most rigid carding and see how long it lasts—with a minimum of stripping!

When we started off this series of advertisements to give you a personal peek-behind-the-production scene at Benjamin Booth, **STRIP-O-MATIC** was new, was being tested in several plants, and while we knew *what* it could do, it remained for time and operating conditions under which it worked to determine the stripping span of time.

Since then we have learned. **STRIP-O-MATIC** has run as long as *six weeks* without stripping, and because of its pliable, sturdy foundation and stronger wire, it should last longer and give more efficient service.

We know you are seeking such a Card Clothing, so hasten to make this report to you.

STRIP-O-MATIC, if need be, *can* be ground, but less grinding is required than conventional types. This provides a nice saving also, a less "down time" for grinding means more production.

Again, may I urge you to write for your copy of the color booklet, "The New **STRIP-O-MATIC** Card Clothing" as it is, we feel, the best and most complete way to learn the many advantages and savings offered by this only-one-of-its-kind Card Clothing.

Thanks,

President,

Benjamin Booth Company

Allegheny & Janney Sts.

Philadelphia, Pa.

* Pat. applied for.

binder. Such a fabric is illustrated in Fig. 5.

A saving of labor has been brought about by the use of alginate yarn in the production of seamless socks. As shown in Fig. 6, socks are machine knitted in the form of a continuous tube; several rows of parting courses are normally put in between successive socks, and these are ordinarily cut through and removed by hand to give a clean welt at the top of the sock (the open toe end is closed on a looping machine).

The removal of the parting courses by cutting must be done with care to leave a clear, unfrayed welt and to avoid wastage. This difficulty is overcome by knitting in, between the two socks, a few separating courses of soluble yarn. Only a rough cut is needed to effect separation, the toe ends are linked, and the socks go on to be washed in soap to remove the spinning oil and to dissolve the alginate yarn, leaving a perfect welt at the top of the sock.

Thus, the work which originated in an attempt to find a substitute for cellulose rayon has made possible lightweight wool fabrics and has increased the efficiency in the manufacture of wool socks and nylon stockings. In short, a new weapon has been added to the armory of the textile technologist.

Miniature Slasher

(*Continued from page 123*)

livery roll shaft. The V-belt drives another sheave which has a fiber covered friction plate and is mounted loosely on the jack shaft. The sheave presses against a clutch face which is fixed on the jack shaft. Pressure is applied by a spring which is held in place by an adjusting nut.

CONTROL INSTRUMENTS. A predetermining yardage counter is connected to the delivery-roll shaft, permitting the operator to regulate, by preliminary settings, the yardage required on the spools.

Temperature of the drying oven is controlled by a thermostat. The control is essentially a mercury-tube circuit breaker connected in the heating circuit. The oven was constructed from 28-gage galvanized iron and contains an insulating lining of rock lath and asbestos paper.

All principal rolls are mounted in self-aligning ball bearings with the exception of the size roll which is mounted in babbitted pillow-block bearings. Legs and side members of the unit were fabricated from 2 x 2-in. angle steel. The size box is a porcelain enamelware pan. A heating unit has

You can count on Santomerse No. 1 for the thorough penetration you need for level dyeing of yarns on packages and beams. It is economical. As little as from two to eight ounces per hundred pounds of yarn is needed for efficient penetration.

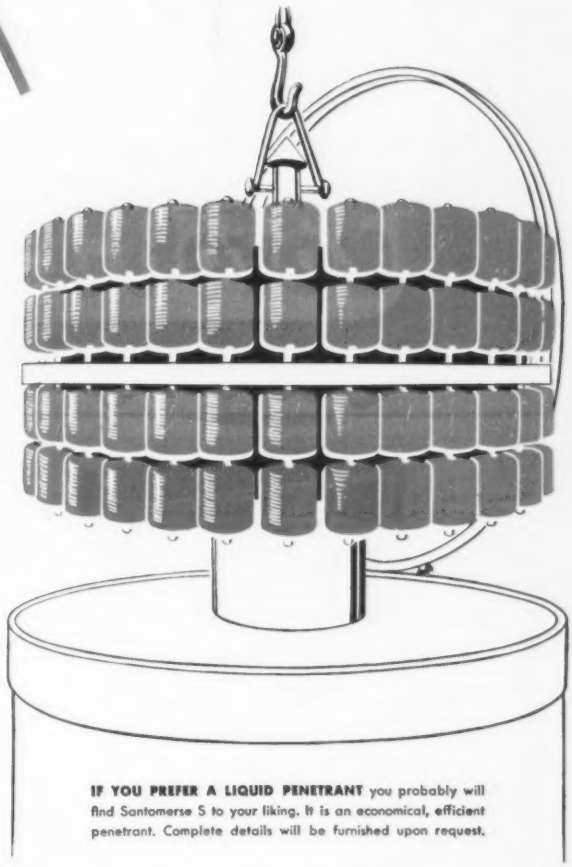
Santomerse No. 1 is effective in hard or soft, hot or cold water and in neutral, acid or alkaline solutions. It does not form insoluble curds that hamper your operations and lower the quality of your product.

Santomerse No. 1 is giving excellent service in the textile industry, not only in beam and package dyeing but wherever an efficient detergent, penetrant or dispersing agent is required.

Try Santomerse No. 1 in your beam and package dyeing. For complete details on this efficient, economical penetrant, mail the coupon, contact the nearest Monsanto Sales Office or write: MONSANTO CHEMICAL COMPANY, Desk G, Phosphate Division, 1780 South Second Street, St. Louis 4, Missouri.

SANTOMERSE No. 1

...efficient, economical penetrant for package and beam dyeing



IF YOU PREFER A LIQUID PENETRANT you probably will find Santomerse S to your liking. It is an economical, efficient penetrant. Complete details will be furnished upon request.

*Reg. U. S. Pat. Off.

MONSANTO CHEMICALS

MONSANTO CHEMICAL COMPANY
Desk G, Phosphate Division
1780 South Second Street, St. Louis 4, Missouri

Please send items checked: Data and quotations on ____Santomerse No. 1; ____Santomerse S.

Name_____Title_____

Company_____

Street_____

City_____Zone____State_____

SERVING INDUSTRY . . . WHICH SERVES MANKIND

MONSANTO DETERGENTS AND WETTING AGENTS

- Santomerse* No. 1
- Santomerse No. 3
- Santomerse No. 3 (Paste)
- Santomerse 30X
- Santomerse D
- Santomerse S
- Sterox* CD
- Sterox SE
- Sterox SK
- Sterox 5
- Sterox 6

NEW

COMBINATION VULCANIZED FIBRE AND ALUMINUM TRUCK—Patent #2468375

Constructed of Genuine Vulcanized Fibre, with Aluminum Slotted Bottom, Aluminum side braces, Special and Exclusive one-piece Aluminum Extrusion Top Rail. May be made in three styles—ROUND CORNER, STREAMLINE or SQUARE, with slatted bottom. Durable construction, Lighter than aluminum trucks. Durable — Great Tensile Strength—All Corrosion Eliminated. No future repairs or replacements necessary. Full details on request.

J. C. PADDOCK COMPANY

Manufacturers of Textile Hand Trucks and Equipment

Phone 962 **Spartanburg, S. C.**

been mounted adjustably under the pan to keep the size or other chemicals at the required temperature.

The quetsch roll is a 1¼-in. rubber roll mounted in ball bearings and supported in a framework extending over the feed roll. From the end of this assembly are suspended weighting rods which may be variably weighted to regulate the amount of size left in the yarn.

The heating elements in the oven total about 2,000 w. which is sufficient to hold the temperature around 200° F. through intermittent heating. The speed of the slasher can be varied by changing either the motor pulley or one of the countershaft pulleys. The heating unit for the size bath is about 600 w.

California Cotton

(*Continued from page 139*)

BEATING. Many mills running California cotton overbeat it. Too much opener processing is another probable cause of neps. Vertical openers, often in tandem, and one or more Buckley type openers, were used in many cases. Recent recommended methods of processing include taking the stock directly from opener feed table to Buckley-type openers or to feeders back of pickers. The vertical openers are by-passed.

Two sections of picker are recommended with a two-blade beater at 900 rpm. in the first section, and carding beater at 800 rpm. in the second section. Total beats per in. for both sections should not exceed 50. A good setting of blade beater is ¼ in., carding beater ⅛ in., cut-off plate not more than ⅛ in. Grid bars should be opened with sufficient angle to remove motes and seed coatings without loss of too much good fiber.

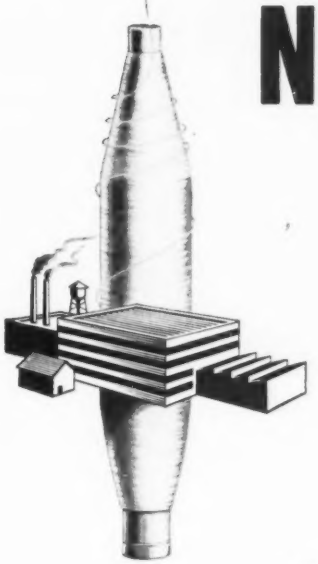
CARD PRODUCTION. Reduction of poundage per hour off the cards, from the usual 11 lb. per hr. to 6 or 8 lb., gives good results. Settings are not changed from the conventional standards. Sliver weight can run from 50 to 55 gr. per yd. Two-process drawing comes next, with 50 gr. sliver on finisher. For 21s yarn, one process long-draft roving with single roving in spinning works out well. For the finer yarn numbers, 40s, 50s, and 60s, combed sliver with 10% noil, with 50 gr. drawing sliver on one-process long-draft roving, and double roving in the spinning, gives a smooth-appearing yarn.

Excessive neppiness was the principle objection made in the past to the use of California cotton. The two wound blackboards shown at the head of this report show the change that

if your business hangs on this...

NOPCO* 1656-R

is a must



And by "this" we mean WORSTED yarn. Here we can represent it only as a line . . . but, as you know, it's a line full of significance. For top quality WORSTED yarns, economically produced, mean enduring customer satisfaction, increased sales, greater profit.

And that's where Nopco's NEW 1656-R fits right into your WORSTED production picture. For here's an oil specially formulated to *assure more efficient processing . . . superior quality finished goods.*

You will find Nopco 1656-R:

ELIMINATES static

ELIMINATES oxidation

ELIMINATES 75% of soap costs (and, by scouring out freely, assures clearer, brighter dyeing)

MINIMIZES broken ends

In a word, Nopco's NEW 1656-R enables the worsted manufacturer to achieve *outstanding results*—comparable to those obtained by users of famous Nopco FUA wool oil in carding, spinning and finishing woolens.

Write us today, and profit by getting all the facts about NEW Nopco 1656-R . . . the remarkable modern aid to better WORSTED production.

New!

NOPCO 1656-R for better WORSTED production

*T. M. Reg. U. S. Pat. Off.

NOPCO ® EVOLVED THRU RESEARCH

NOPCO CHEMICAL COMPANY

Formerly National Oil Products Company

HARRISON, NEW JERSEY

Branches: Boston • Chicago • Cedartown, Ga. Richmond, Calif.

BANISH
THAT
BREAK-DOWN
BUG-A-BOO

with SIMPLIFIED PREVENTIVE
MAINTENANCE CONTROL RECORDS

To prolong the life and productivity of your plant and equipment, to save money on repairs and replacements, to avoid needless breakdowns and costly "downtime"... you need the positive control of maintenance activity that Kardex Visible Records provide.

With Kardex Visible Records in control, your maintenance crew makes *periodic inspections on schedule*. The result... high operating efficiency for your plant, delivery promises made and kept, manufacturing costs held within bounds.

Send for free descriptive folder (No. KD 449) today. Systems Division, 315 Fourth Ave., New York 10, N. Y.

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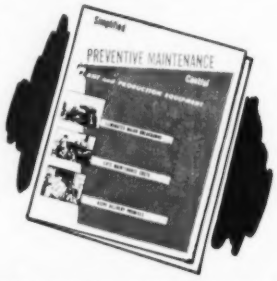
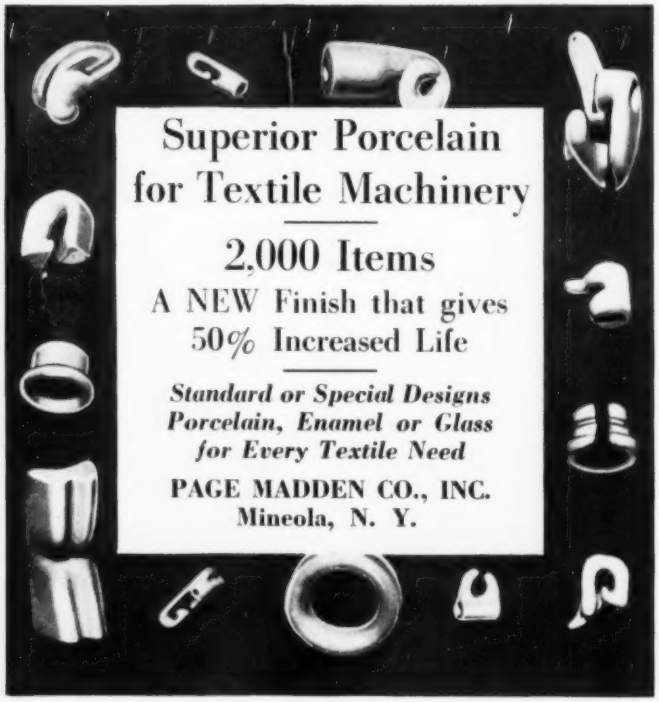


Remington Rand THE FIRST NAME IN BUSINESS SYSTEMS



has come. Both are equal to Grade A on the Standard Cotton Appearance chart.

In short, it appears that California cotton processed properly is equal in every way to Upland cotton of the same classified staple length. The required changes from usual processing procedure as indicated by the above tests are: minimum opening and picker processing, lower beater speeds, increased beater-to-feed-roll settings, wider grid-bar openings, with greater angle, and a close setting of the cut-off plate. And it is probable that reduced card production improves the nep count and yarn appearance more than any other factor.

Chain Conveyor

(*Continued from page 101*)

the track over which the chain travels in a series of arcs that clear the work area of the operatives, yet drops to working level at points where discharge or pickup of cans is desired. Empty cans are handled by the system as well as full ones.

HANDLING SYSTEM. As worked out by the engineers of Harry E. Stocker Associates, the system carries sliver from the cards on the third floor to lap-winding machines on the second floor, supplies drawing frames from the combers, and then moves stock from the drawing frames to the roving frames on the third floor. Empty cans are similarly handled.

The system does not stop or start as needed by any particular employee. It is continuous, so that all employees on the second or third floors may use its services. Capacity of the system is 4,000 lb. of stock every hour. The operatives handle comber sliver and laps by conventional methods.

There is no difficulty in distinguishing the various stocks run by the room. Each type is marked with a particular color of chalk, and the cans for each process are also kept separate. Cans used on cards are returned to these machines after emptying at the lap winders. Drawing-frame and comber cans are similarly handled.

Loading of the cans is regulated by Pepperell's management so that an employee will not be delayed too long during doffing. From the cards, the cans are loaded from one central location on the spare floor. Loading for the finisher draw-frames is done directly in front of the machines. However, unloading for the roving frames is done at one central point for the convenience of all roving-frame operators.

A small electric motor of ½ hp. drives the chain which moves on a track mounted by brackets attached

M&W High-Speed TENTER FRAME

Speeds up to 250 y.p.m.

Speeds up to 250 yards per minute are entirely practical with the M & W Tenter Frame, *when equipped with the M & W patented No. 11 Tenter Chain.* And you can *still* maintain the highest standards of fabric quality.

Features which make these high speeds practical are as follows:—

1. Patented No. 11 Tenter Chain. Each clip on this chain is connected to the next by a standard roller chain link. The drive sprockets and idlers do not touch the body of the clips,—only the roller links. This insures quiet operation and long life with minimum friction.
2. Large drive sprockets, which reduce wear.
3. Anti-friction bearings, which reduce power consumption.
4. Wide, parallel rails which reduce wear on chains.

PATENTED
No. 11 M & W
Tenter Chain Clip

NOTE: We repair, and supply parts for, all types of tenter chains.

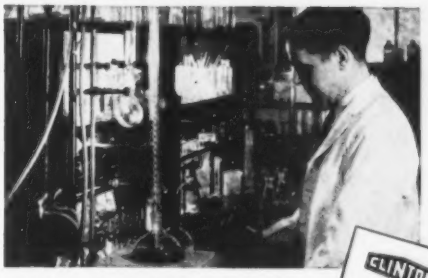
Features which protect the quality of the cloth and many other advantages of this frame, not mentioned here, will be explained on request. Send for Bulletin A.

MARSHALL and WILLIAMS CORPORATION
46 Baker St., Providence 5, R. I. Tel.—HOpkins 1-3450
MARSHALL and WILLIAMS SOUTHERN CORPORATION
121 Welborn St., Greenville, S. C. Tel.—Greenville 2-4655

M&W

You'll find Clinton Quality Starches Tops for Every textile purpose!

● Clinton Textile Starches are scientifically manufactured and guaranteed for unvarying uniformity and pH control. Clinton Starches give your warp the necessary body, strength and pliability that means quality weaving every time. Reduce loom stoppage and increase production with Clinton Textile Starches. For years Clinton has been a leader in the production of starches for all textile purposes.

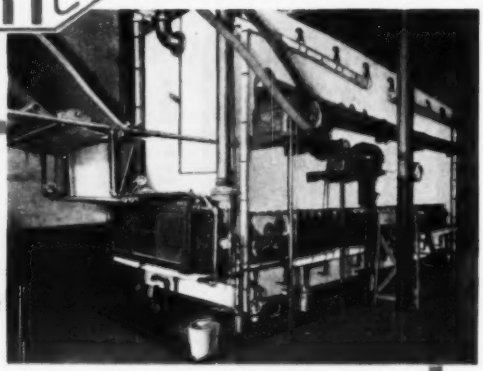


CLINTON

You'll find our staff of highly trained technicians helpful and profitable in solving your sizing problems. Without obligation, write or call Clinton Industries, Service Laboratory, Clinton, Iowa.

Clinton Industries, Inc.
CLINTON, IOWA

NEBUTTCO AGEING MACHINES



for better fabrics

DESIGNED PRIMARILY to prevent damage to fabrics due to condensation and tension, this BUTT Ager may be operated on either the pond or dry system, with minimum steam consumption. A special feature of its design is the pre-heating chamber or ante-chamber where the cloth is brought up to temperature before it enters the ager proper. Rolls of 50" or 60" face are operated in ball bearing housings designed for minimum maintenance. We can supply single or double folders for either roll face.

For complete specifications write for Circular No. 82

NEW ENGLAND BUTT COMPANY
Established 1842
204 PEARL ST., PROVIDENCE 7, R. I.

Sterling Ring Travelers

QUALITY

In these times, quality and low cost often mean the difference between running or closing.
Sterling Ring Travelers will improve your Spinning and Twisting, also cut your cost. Try them.

M. H. Cranford, Box 204, Chester, S. C.
H. B. Cabaniss, Box 188, Monroe, N. C.
D. R. Ivester, Box 882, Clarkesville, Ga.
J. S Furtado, Box 803, Fall River, Mass.

STERLING RING TRAVELER CO.
FALL RIVER, MASS.

to the ceilings of the two floors. The motor is equipped with an automatic lubrication system which supplies it and the chain with lubricant for continuous operation.

CONSTRUCTION. The links of the chain are constructed of two vertical rollers of 2-in. diameter on each end and a horizontal roller of 1¼-in. diameter in the center. All rollers are ball-bearing mounted. The steel track is covered on the top, sides, and bottom except for a ¾-in. access groove in the bottom of the track. The vertical rollers roll on the outer edges of the top and bottom of the track channel. The horizontal roller turns from surface contact with the sides of the track. The rollers were designed to give sturdy but smooth motion and operation.

Speed of the chain can be adjusted from 1 to 30 ft. per min. in surface speed. It is normally run at 7 ft. per min. However, in emergency delivery of empty-can holders to operators ready to doff, the card-room management can speed up the system by adjusting the motor control. A similar adjustment can be made to slow down the conveyors required.

The cans are supported by an ingenious and simple holder. Two metal arms of ¾-in. cold-rolled steel are suspended from the chain and are under spring pressure. The arms have suitable supports for the can at the bottom and at the sides, in addition to a top support to prevent sliver from falling to the floor.

The Pepperell system was installed by Conveyor Manufacturing Co., Decatur, Ga., from equipment furnished by Richards-Wilcox, Aurora, Illinois.

Because of the sturdiness of the equipment and ingenious oiling, maintenance of the system is said to be low.

Pointers for Supervisors

(*Continued from page* 143)

mills and to the families in the communities in such a way these people become partners in the industrial enterprise . . . not mortal enemies of it.

It is impossible to lay down a pattern which can be followed and which will automatically produce good industrial and public relations. The circumstances which surround each individual plant must dictate the proper procedures and methods employed. There are some things, however, toward which all programs must aim to be successful.

1. Good press relations. Nearly all newspapers desire and will print stories emanating from persons of authority in the mills if the stories represent real news, not just propaganda. The

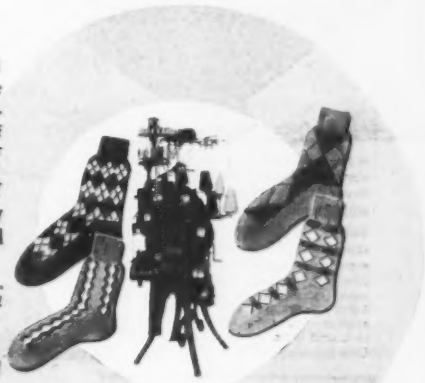
Your Line Perhaps?

MANY men's hosiery manufacturers haven't yet realized that their present line may be slowly strangling their business. They're hung up for orders because buyers aren't interested in stand-pat lines.

That's why these manufacturers need the VERSATILITY of Hemphill Banner Wrap-Reverse Machines to put new life in their selling today . . . and tomorrow.

Just one instance of the practically unlimited VERSATILITY of Hemphill Banner Machines is their ability to produce automatically in up to 18 wrap colors for accenting and overplaiding normal and reverse plaited designs.

Find out exactly how Hemphill versatility can work for you . . . find out from a Hemphill sales engineer. Ask to have one call soon! Address Dept. 1 — Today!



New Life For Your Line — With Hemphill Banner Wraps!

THE HEMPHILL COMPANY
PAWTUCKET, RHODE ISLAND, U. S. A.

Makers of Banner Hosiery Machines

OFFICES: Empire State Bldg., New York 1, N. Y. — Security Bank Building, High Point, N. C.
EXPORT OFFICE: 25 Beaver St., New York 4, N. Y.

Use Only Genuine Hemphill Replacement Parts For Hemphill Banner Machines

Automatic
Singeing Machines

- FOR RAYONS, COTTONS,
- RAYON-COTTON MIXTURES,
- RAYON-WOOL MIXTURES,
- AND WORSTEDS.

This versatile machine does a superior job on all fabrics listed above. Singes closely and uniformly in one pass, at speeds up to 300 yards per minute. Can be used in tandem with bleaching range, caustic boil-out, or mercerizer. Uses oil, natural or artificial gas for fuel.

EXCLUSIVE
BURNER DESIGN

I.H.E. high velocity flame retention-type Burner of exclusive, patented design gives a close, even finish on all types of fabrics. High velocity of the flame provides singeing into the interstices of the fabric. Burners for your particular fabric can be especially designed.

INDUSTRIAL HEAT ENGINEERING CO.
Textile Drying, Curing and Singeing Equipment
121 CLEVELAND ST. • GREENVILLE, S.C.

trouble with most companies is that no one has been delegated the authority to speak for the company; and all too frequently, the news account reads, "No official was available for comment." The development of good press relations is fundamental and will pay dividends in understanding.

2. **Good community relations.** The development of a program which will win or maintain the goodwill of the folks in the community where an industrial enterprise is located is also a fundamental aim. Members of management should stand ready at any time to speak to school classes, service groups, church societies, or other gatherings. These meetings provide wonderful opportunities for selling industry to the public. Well run "open-house" programs are valuable adjutants. Plant tours for school children are also helpful.

3. **Good personnel relations.** The little services and kindnesses which a well-planned personnel program can perform bring bountiful rewards out of all proportion to their cost.

Bad Doffs

(*Continued from page 141*)

rebounding. Spring tension on the shuttle check should be as loose as possible. Too much spring will have a tendency to push the shuttle out of its proper position. When the leather check strap becomes oil soaked, it should be replaced. Cowhide tanned with the hair on makes excellent shuttle check straps.

Position of the shuttle at time of transfer is very important. When the shuttle is fully boxed at the magazine side, it should be stopped so that the first ring next to the base of the empty bobbin in the shuttle lies directly between the first and second ring of the full bobbin that is to be transferred. This adjustment is made by either adding or removing packing from behind the picker. A roll of cloth covered with leather makes an excellent packing. A soft packing which stops the shuttle gently is desirable in that it will help prevent the filling from coming off the bobbin in bunches.

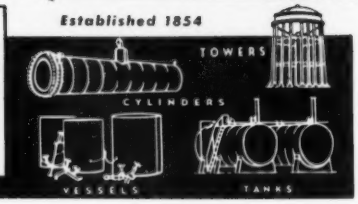
Weavers should watch the position of the shuttle at the magazine side, as it gradually works back. This working back is due to the fact that the shuttle tip wears a hole into the picker, and in time the packing also compresses and allows the shuttle to move back from its proper position. If the shuttle is allowed to go back too far, the bobbin that is to be transferred will hit on the top of the shuttle and will not transfer properly. It will also allow the tip of the shuttle to be

DEPENDABLE
WATER SERVICE

• For almost a century Cole elevated tanks have provided a dependable water supply for mills and communities. Cole quality is assured by careful, experienced designing and watchful supervision from blueprint to finished tank. Send us your inquiries for tanks from 5,000 to 2,000,000 gallons — stating capacity, height to bottom, and location. Write for latest Cole catalog—"Tank Talk."

R.D. COLE
MANUFACTURING CO.
NEWNAN, GA.

Established 1854



MEMO # 2 of a Series

(1) Looking Forward
(2) Tradition or Progress
(3) Reputation or Performance
(4) Facts or Claims
(5) Take it or Leave it
(6) A Challenge

CABLE ADDRESS EDMOSCORP, NEW YORK

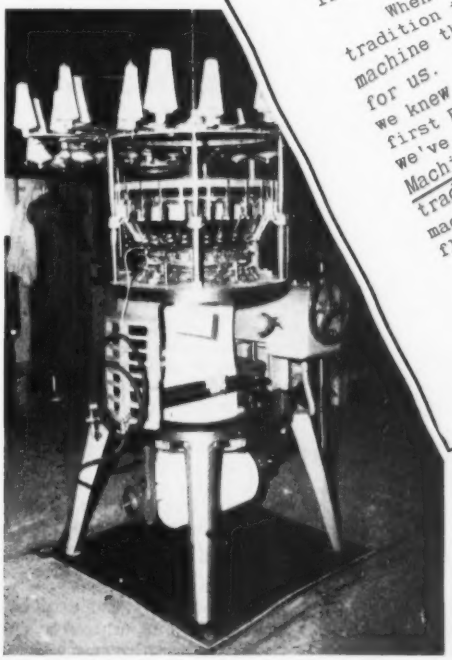
EDMOS PRODUCTS *Corporation*

13 CHRISTOPHER AVENUE BROOKLYN 12, NEW YORK DICKENS 2-0172-3

TRADITION OR PROGRESS

From the days of the spinning wheel, generation after generation of knitters have been victims of tradition, dictating the customs and practices of one of our oldest industries. Steeped in tradition suppliers followed the paths of least resistance to the end, that little progress has been made in the last half century.

When we decided to build Edmos machines we cast tradition to the winds. If we couldn't build a better machine than those now available, there was no place for us. We started with an idea, we made progress for we knew what the men of the industry wanted. Since the first Edmos machines were built only a few years ago we've made progress and today's Type EEM Edmos Knitting Machines typify what can be done when progress and not tradition is the buy word. We want you to see these machines in operation either in our plant or on your floor. Write Dep't A for descriptive literature.



Built in the following sizes
1x1 or 2x2—8 to 16 cut

12"—16 feeds	18"—27 feeds
13"—18 feeds	19"—28 feeds
14"—20 feeds	20"—30 feeds
15"—22 feeds	21"—31 feeds
16"—24 feeds	22"—33 feeds
17"—25 feeds	23"—34 feeds
	24"—36 feeds

ILLUSTRATED: Type EEM Edmos as shown at the 1949 Knitting Arts Exhibition

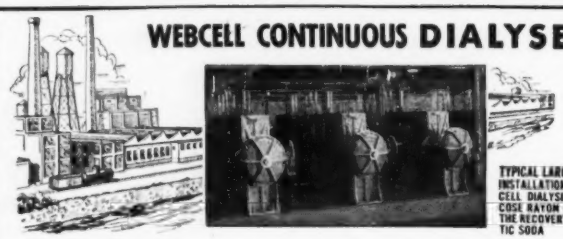
Photograph courtesy Verney Mills

Doubling and Winding Machine
FOR WOVEN COTTON GOODS AND RAYONS

Doubles cloth neatly and evenly lengthwise so as to bring the selvages together, and at the same time measure it and wind it in a package for the market. Can be fitted to wind the doubled goods on flat cardboards, as shown, or on round paper tubes. *Ask us more about it!*

Curtis & Marble
MACHINE COMPANY
WORCESTER, MASSACHUSETTS

WEBCELL CONTINUOUS DIALYSERS

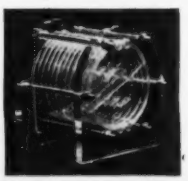


TYPICAL LARGE BATTERY INSTALLATION OF WEBCELL DIALYSERS IN VISCOSE RAYON PLANT FOR THE RECOVERY OF CAUSTIC SODA

***DIALYSIS* MAY BE THE SOLUTION OF YOUR PROBLEM TO AVOID STREAM POLLUTION AND TURN LIQUID WASTE INTO PROFIT**

Industries employing certain liquid solutions in their process are confronted with the problem of stream pollution in the disposal of waste. Dialysis may be the solution for you, as it has for others, to a low cost method of preventing stream pollution—plus the saving of the cost of a neutralizing agent and a profit from waste through recovery.

The process is now in profitable operation in many fields for the:



RECOVERY OF ALKALIS & ACIDS • REMOVAL OF ACIDS, ALKALIS OR OTHER NON-WANTED MATERIALS • PURIFICATION OF SOLUTIONS • MANUFACTURE OF BY-PRODUCTS

LABORATORY MODEL

For experiment work in the study of dialysis. The model is made of lucite and clearly shows the action of transfer and separation. The results obtained can be closely translated into terms of expectancy from the larger production units.

For further information, write for bulletin 58.

BROSITES MACHINE COMPANY INC.
50 CHURCH STREET (Cable Address—BROMACH) NEW YORK 7, N. Y.
TELEPHONE DIGBY 9-3600

too far from the revoker to allow this safety device to work. When the revoker is properly adjusted, the arm should not be more than ⅛ in. ahead of a properly boxed shuttle. The revoker will prevent a transfer unless the shuttle is in a position which allows two rings of the new bobbin to be caught in the clip of the shuttle.

Textile Suggestions

(*Continued from page 117*)

mittee is final. On suggestions to improve safety and quality, such factors as the importance of the resulting change and the amount of creative thought are considered.

AWARD AMOUNTS. The United States Rubber Co. pays the federal withholding tax and old-age-benefits on all awards of $50.00 or less. Awards over $50.00 are subject to deductions for federal tax. The minimum award for an accepted suggestion is $5.00. The maximum that can be awarded by the local committee is $300.00 for one suggestion. The largest award made this year was to a colored employee in the Asbeston plant.

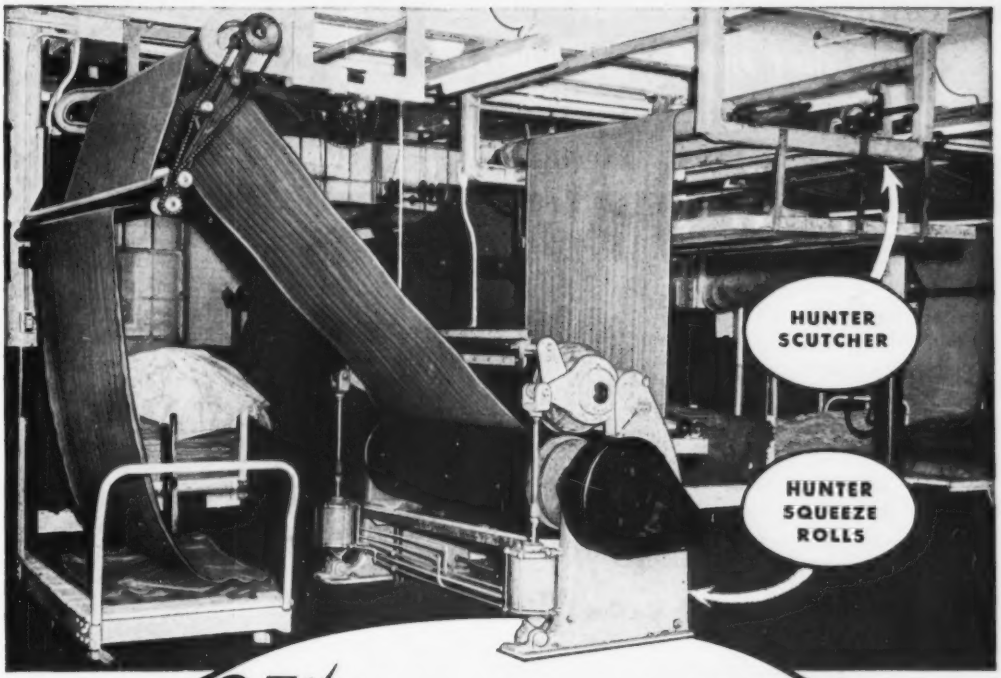
In event the committee decides that a suggestion merits an award greater than $300.00, their recommendation is submitted to the general manager of the textile division for consideration and possible recommendation to the executive committee of the company. Suggestions which are not acceptable but show original thinking are given awards of less than $5.00.

All awards, of course, are subject to the approval or rejection of the local plant manager. In addition, the superintendent of each plant presents the award check to the suggestor. A special award may be made each year to the suggestor turning in the most accepted suggestions, provided one person has as many as three or more accepted suggestions.

An idea that duplicates, or is similar to, a present plan of the company is not eligible for an award. However, the company must prove prior planning. A suggestion which is of material value to a present plan of the company is paid for in ratio to its value. Non-adopted suggestions remain under the option of the suggestor for one year and may be reviewed at any time prior to the completion of the year.

The rights of a suggestor are unaffected by lay-off, transfer, retirement, or leave of absence. A suggestor who is discharged or quits voluntarily loses all rights.

If the suggestor does not agree with the decision of the committee, he may appeal to the plant manager, or he may appear personally before the commit-



...up to 35% *increase* in extraction efficiency

When a plant seeks greater and more uniform extraction of moisture from all woven fabrics, the economical solution will be found in the Hunter Model G, pneumatically controlled, squeeze rolls, similar to those pictured above recently installed at the Packard Mills. To assure continuous or straight line production, the Model G may be used in combination with a scutcher, in continuous cloth carbonizing or washer lines, on tracks in wet finishing rooms, or as a separate unit. It is adaptable to any woven fabric, either flat or pile type, on cottons, rayons, woolens, worsteds, and blended or manipulated fabrics. As much as 35% better moisture extraction has been proved in tests when the Model G has competed against vacuum extractors running at the same speeds on the same goods. The Model G requires less horsepower to operate than any other extraction equipment. For example: 5 to 7½ H.P. for the Model G against 20 H.P. for the average vacuum extractor. Orders and re-orders from modern mills throughout the country are proof of Model G performance and economy.

Write for Bulletin SRR. It contains complete details, drawings and photos of Model G squeeze rolls and scutchers.

BUILT BY HUNTER — JAMES HUNTER MACHINE CO. NORTH ADAMS, MASS. — IT'S DEPENDABLE

D. L. Raedel, 1936 West Lake Street, Chicago, Ill.
S. Alex Dalghren, Ivyland, Bucks County, Pa.
J. Everett Burdick, Grayson Lane, Newton Lower Falls, Mass.
E. G. Paules, 1762 West Vernon Avenue, Los Angeles, Calif.
Rudel Machinery Company, Ltd., Canada

Hunter

JAMES HUNTER MACHINE CO., NORTH ADAMS, MASS. FOUNDED 1847.

You Couldn't Find An Easier, Quicker Sudsing Soap or Flakes Than...

DRUMMOND

LEAVES FABRICS CLEAN . . . SOFTER . . . COLORFUL

As Free Sample Will Show You!

Both DRUMMOND Soap and Flakes have the advantage of high body and low alkali content . . . an advantage that instantly leaves fabrics clean with a downier feel, brighter color and whiter white.

We offer you a free sample to show you what we mean.

Easier—quicker-sudsing DRUMMOND—that's the answer to your cleaning problems.

Write today for your ample-size sample of DRUMMOND Soap—just ask for Flakes or Solid.

TEXTILE OILS AND SPECIALTIES

Standard Soap Co. of Camden

205 South 2nd St. CAMDEN N. J.

James A. Greer, Southern Manager P. O. Box 306, Greenville, S. C.

"But you can't buy that kind of a motor..."

How many times have you heard somebody that ought to know better say something like that about motors, pumps, compressors or what-have-you? And how many times you heard somebody else say, "Oh yes you can! I saw just what we need in Blank Company's ad yesterday."

Advertising pages in this magazine are packed with *news* about your business. They contain information about products and services designed to help *you* do *your* job quicker, better and cheaper.

To be well-informed about the latest developments in *your* business, *your* industry . . . and to stay well-informed . . . *read all the ads too.*

TEXTILE WORLD

tee. All suggestions are made a part of the permanent record of the suggestor.

STIMULANTS. Thorough coverage of the news about suggestions and suggestors, awards, and special campaigns are given in the plant newspaper, the U. S. Crackers. Articles explaining the suggestion plan and pictures of suggestors are printed in the paper.

Posters made up locally and carrying a message to stimulate thinking along some particular subject are placed on special suggestion bulletin-boards in the mills. The announcement of award winners is also made on these boards, as well as in the paper.

The slogan, "Cash in on your ideas," appears on all suggestion boxes which are located conveniently throughout the mills. There is one box to every 75 employees.

Conference with shift supervisors are held during their monthly meetings in order to ask their help and advice in making the system effective.

Nylon and Wool Blends

(*Continued from page 135*)

8%, the wear is not proportionately increased.

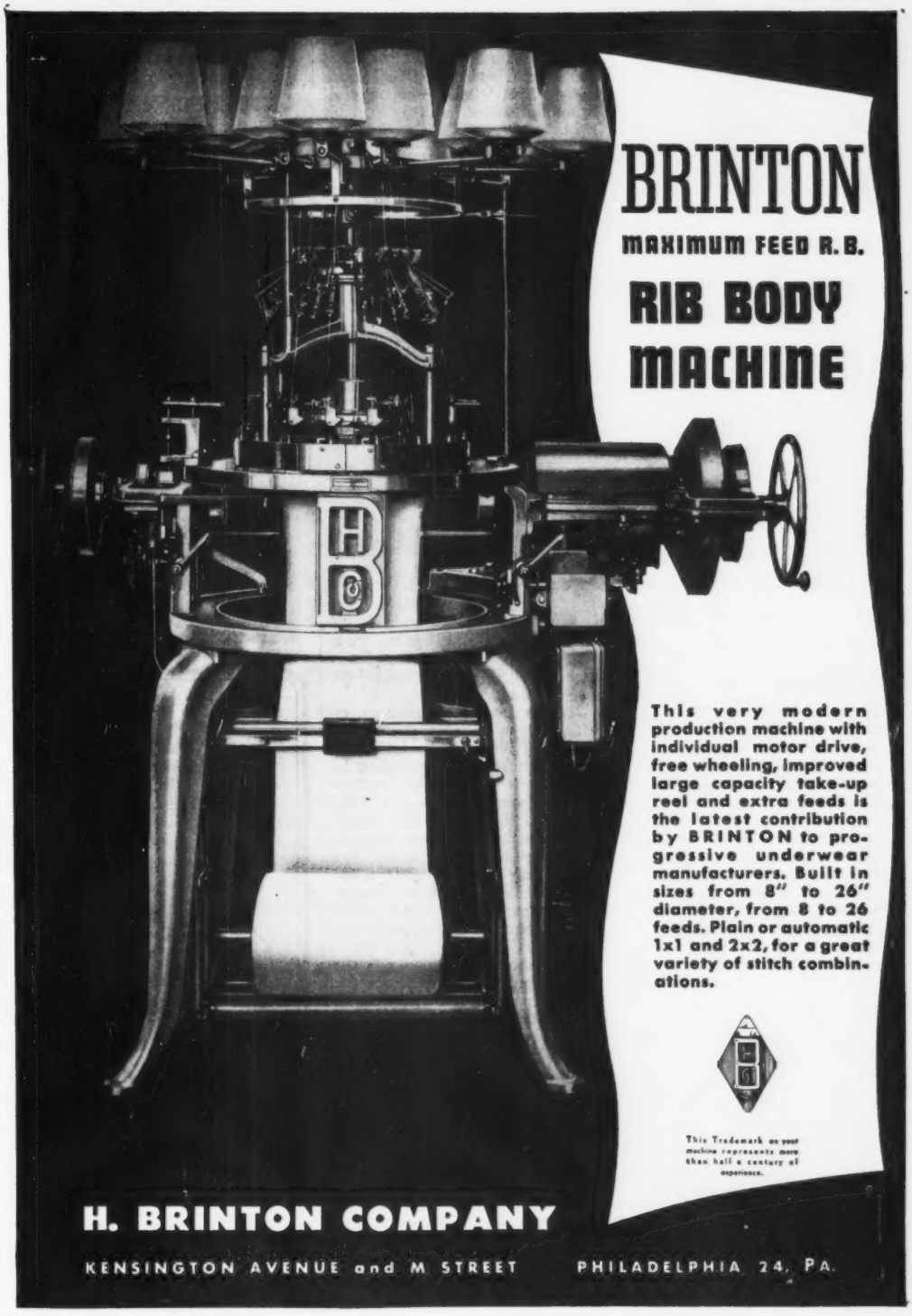
Shrinkage on laundering of the socks knitted in this study was also studied. The shrinkage curve is shown in Chart II. Undoubtedly the shrinkage could be improved greatly by treating the wool with some reliable shrink-resist process.

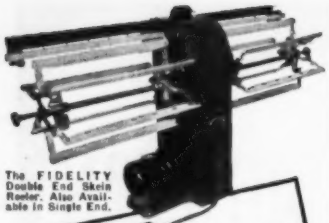
Improved wear and shrink resistance was also indicated in Chart III, which contains figures published by Nylon Div., Canadian Industries, Ltd.

Studies were also made on improving shrink resistance and wear of worsted yarns without use of nylon staple. The chief improvements have been concerned with quality of yarn and the ply (doubling) twist. Best results were obtained when good crossbreds were used and the ply twist was equal to the singles twist. Chart IV illustrates the wear resistance of the different qualities with equal twist.

If the public can be educated to accept a sock with a rough appearance and a harsher handle, there is no doubt that socks would give much better service. The natural shrink resistance of the longer-stapled crossbreds as compared with botanies is also a favorable factor. This shrink resistance variation is shown in Chart V.

The effect of ply twist is similar to that of equal twist. Normally, the ply twist is half that of the singles twist. For instance, for 2/26s, 60s quality, the ply twist is 5 tpi. and the singles twist 10 tpi. Shrink resistance improves considerably up to the point


BRINTON
MAXIMUM FEED R. B.
RIB BODY
MACHINE
This very modern production machine with individual motor drive, free wheeling, improved large capacity take-up reel and extra feeds is the latest contribution by BRINTON to progressive underwear manufacturers. Built in sizes from 8" to 26" diameter, from 8 to 26 feeds. Plain or automatic 1x1 and 2x2, for a great variety of stitch combinations.
This Trademark on your machine represents more than half a century of experience.
H. BRINTON COMPANY
KENSINGTON AVENUE and M STREET PHILADELPHIA 24, PA.



The FIDELITY Double End Skein Reeler. Also Available in Single End.

Reduce Down Time . . Boost Profits
THE NEW FIDELITY SKEIN REELER

Automatic operation of the new Fidelity Skein Reeler permits the use of one operator on as many as four machines. This means an increase in productive man-hours and reduction of idle waiting time. 3 of the 4 machines continue reeling while one is being doffed. Results—reduced manufacturing cost . . . efficiency . . . a plant streamlined to meet today's competition.

Get the complete story on how down time can be reduced . . . profits increased.

Manufacturers of intricate precision machinery since 1911.

FIDELITY MACHINE COMPANY INC.

3908 Frankford Avenue, Philadelphia 24, Pa.

WILTEX Inc.

Aluminum Cloth Rolls

Rustproof Lightweight

NO SLOT NEEDED WITH THE AMAZING WILGRIP NON-SLIP FINISH

Now In Standard Use in Many Mills

1340 E. 222nd St.
Euclid 17, Ohio

where the ply twist is slightly greater than the single twist. Beyond this point, the yarn becomes uneconomical and is also unbalanced and snarls badly. Chart VI shows improvement in shrink resistance with different ply twists.

Cotton-Mill Waste

(*Continued from page 133*)

laps, end breakage, and poor-running work right through to the weave room.

WASTE CLASSIFICATION. With standards for all types of waste and knowledge of the most important sources of waste and locations of inspection by supervision, a mill should give some attention to its classification of waste. The waste dealer is an important source of information about waste classification. He knows what his customers want; and many are willing to pay increased prices for better separation and reclassification of various kinds of waste.

One mill was mixing its large and small balls of slasher waste and receiving the small-ball price for all of it. After a conference with the waste dealer, the two were separated so that the small-ball waste obtained the regular price and the large-ball waste brought a much larger price. Other types of waste may be reclassified for price premiums.

Complete records of waste are essential for successful waste control. Convenient arrangements for weighing the various waste types must be made. Each waste must be kept separate, weighed separately, and charged to the process and department responsible. Maximum standards for all types should be estimated after a close study has been made of the subject, and any daily figures exceeding those maximums should be called to the attention of the parties responsible.

In addition to maximum waste standards, an efficient system of waste control requires honest weighings, accurate and complete records, constant checking by supervisors, and careful machine operation and stock handling by the operators.

Micarta Lap Rolls

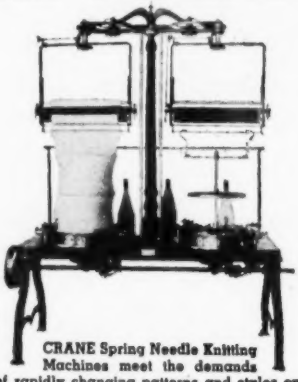
(*Continued from page 137*)

DURABLE ROLL. Durability of the new roll stems from the inherent physical properties of Micarta. A phenolic laminated material, Micarta will not chip or splinter; and lap rolls made from this industrial plastic are therefore capable of withstanding

1870 CRANE 1949

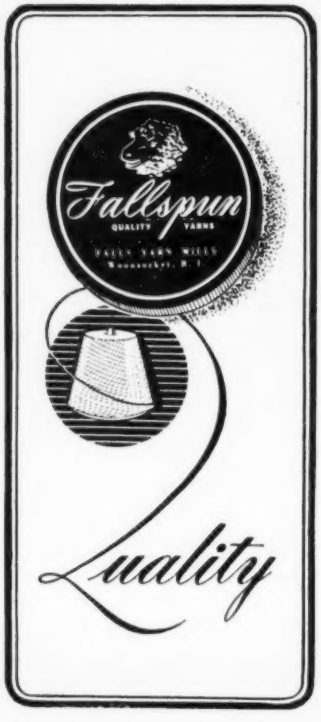
SPRING NEEDLE KNITTING MACHINES

Speed - Quality - Low Cost



CRANE Spring Needle Knitting Machines meet the demands of rapidly changing patterns and styles on all weights of fabrics.

CRANE MANUFACTURING CO.
LAKEPORT, N. H.



. . . for softer, smoother finish on cottons, rayons, woolens

aerotex* softener H is a synthetic type softener which gives fabrics added smoothness and suppleness. It produces a finish with superior softness of handle.

This highly efficient softener possesses other advantages as well:

1. Increases production when used on wool raw stock before carding.
2. Eliminates fabric floating, shock and other annoyances caused by static electricity.
3. Combines perfectly with synthetic resins to add softness to wrinkle resistant properties.
4. Prevents accidental moire in finishing acetate taffeta.

In this buyers' market an increasing number of mills are discovering that **aerotex softener H** imparts a superior and softer finish to cottons, woolens, silks and synthetics.

For complete details of simple application methods write for Textile Finishing Bulletin #111.

*Trademark of American Cyanamid Company

aerotex* softener H

AMERICAN Cyanamid COMPANY

TEXTILE RESIN DEPARTMENT

BOUND BROOK, NEW JERSEY
Tel. Bound Brook 9-2000

30 ROCKEFELLER PLAZA, N. Y. 20, N. Y.
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NEW YORK • PHILADELPHIA • PROVIDENCE • CHARLOTTE • CHICAGO

The finest machines for every knitted fabric

Mellor Bromley

Write for descriptive leaflets of the Mellor Bromley Interlock and many other top line machines.
MELLOR BROMLEY & CO. LTD.
LEICESTER, ENGLAND

Pullovers and cardigans—"Superloop" underwear fabric—Jacquard shaped vests with draw thread and welt—Jacquard outerwear—Elastic web and foundation garments—Interlock—Jacquard shaped underwear—Dress fabrics—Rib fabrics and rib ends—Multifeeder plain fabrics.

LAZENBY
DH-400 SPOOLER

Designed for the winding of 4" Wilton Spools from skeins or Twister Spools, this Spooler is now equipped with Central Lubrication System, vulcanized rubber Friction Rolls and improved Stop Motion, resulting in a highly satisfactory operation at reduced operating & Maintenance cost.

Send us a small supply of your yarn and we will wind & return with Test-Wind Report and Catalog.

F. A. LAZENBY & CO.
3106 Elm Avenue
BALTIMORE 11 MD.

rough handling for long periods of time.

A wood lap roll, on the other hand is chipped and splintered at the end of its useful life. In such a condition, the roll has rough spots that caught the cotton on winding; and as a result, some of the lap is wasted in unwinding.

The Micarta lap roll also has a roughened outer surface, the result of one of the steps in its manufacture. To assure that the roll is concentric, it is put through a centerless grinder. Since Micarta does not require a protective varnish coat, the roughened surface imparted to the roll during grinding remains when the roll is in use. This roughened surface enables the roll to pick up the lap quickly and prevents slippage. Overlapping and waste are thus eliminated; and the finished yarn is more uniform.

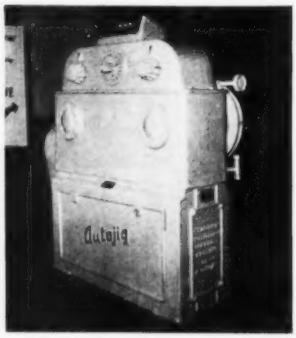
Wood rolls at Bates Mfg. Co. required a coat of varnish for moisture protection and to prevent drying and cracking. The smooth, varnished surface did not pick up the lap readily, and the difficulties mentioned above appeared.

Admittedly, a year of field tests is not a sufficient length of time to produce complete data on average service-life. However, from the basic knowledge of the durable characteristics of Micarta, and the satisfactory performance of the lap rolls to date, the installation of the new rolls is expected to offer savings in handling and maintenance.

Wet-Process Show

(*Continued from page 113*)

cerizing was offered by Industrial Instruments, Inc. The instrument eliminates large platinized cells, working instead by electrical resistance through cells made of plastic and bright annular platinum electrodes instead of glass. The platinum rings are flush-mounted to avoid danger of clogging. (W-10)



A NEW JIG DRIVE shown by B. F. Perkins & Son, Inc., is designed to keep fabric tensionless. (W-11)

Makes Good Use...

. . . of "Pre-Filed" product data

Mr. J. R. Harrison, Vice President shown above, is responsible at his company—Commander Mills, Inc., of Sand Springs, Oklahoma — for selecting and *buying* textile machinery, equipment, supplies and services.

He needs factual data to enable him to compare the relative advantages of various manufacturers' products and to decide which best fits his company's needs. Such factual product information is always at his finger tips, for Mr. Harrison is a regular user of McGRAW-HILL PRE-FILED TEXTILE CATALOGS. In this up-to-date and complete source of manufacturers' products, he usually finds everything he wants.

Here's what Mr. Harrison has to say: "*Have looked up many products in Textile Catalogs.*"

This useful marketing tool is published by the McGRAW-HILL CATALOG SERVICE, 330 West 42nd Street, New York 18, N. Y.

LeaTex

The name that means leadership in

CHEMICAL SPECIALTIES

for the

TEXTILE INDUSTRY

"Always Reliable"

LEATEX CHEMICAL COMPANY
2722 N. HANCOCK ST., PHILADELPHIA, PA.

Olate TAKES MIGHTY GOOD CARE OF MAN-MADE FIBERS AND FABRICS

Your choice of a soap for scouring, dyeing and finishing man-made fibers and fabrics cannot safely be based upon efficiency alone. Some soaps are long on efficiency but short on gentleness. They can stir up plenty of grief in processing.

You'll get all the efficiency you demand when you process with Olate. But you'll get exceptional gentleness, too. The performance of this pure, neutral, low titer flaked soap is second to none. It does a superb job in raw wool scouring, in yarn finishing, in fulling and scouring woven and knitted fabrics, and in scouring and dyeing hosiery.

Olate

All down the line, Olate can help your mill smooth out production worries. You can prove it with a month's trial.

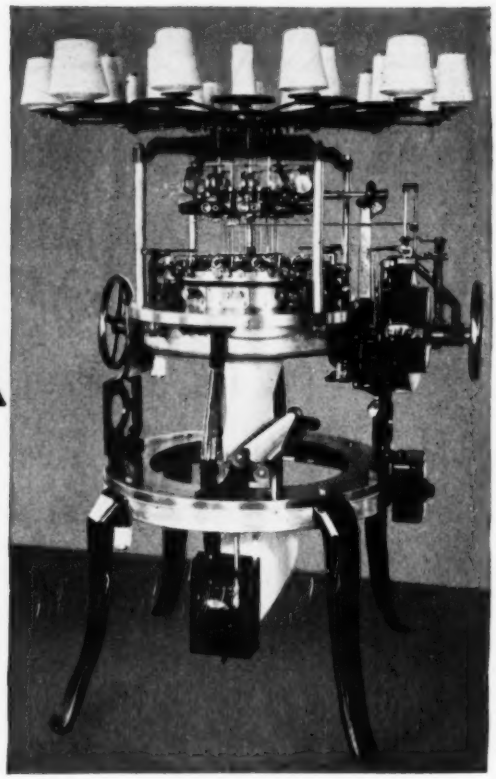
PROCTER & GAMBLE, CINCINNATI, OHIO

Safe and efficient for every textile soap usage

IT BELONGS IN *Your* PLANT *Now!*

The **WILDMAN**
SPRING NEEDLE
MACHINE

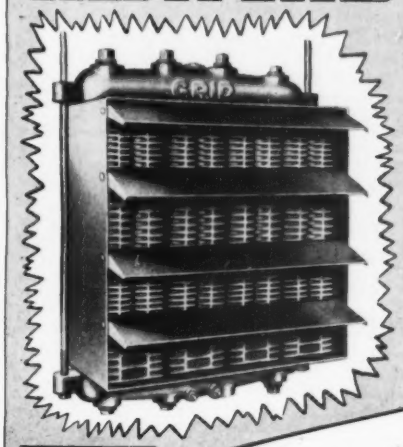
. . . a last word in modern knitting production . . .



This new Wildman machine is so flexible that our engineers can quickly adapt it to your special knitting requirements regardless of how broad or how exacting they may be. It knits very fine gauge fabrics or very coarse ones, and with either it offers an exact uniformity because it feeds yarn under continuously even tension . . . Whatever it does for you, it will produce in greater volume than you've ever experienced and with a very wide range of style possibilities . . . Let us tell you more about this Wildman and how it will enhance your production picture.

WILDMAN MFG. CO. • NORRISTOWN, PA.

GRID UNIT HEATERS



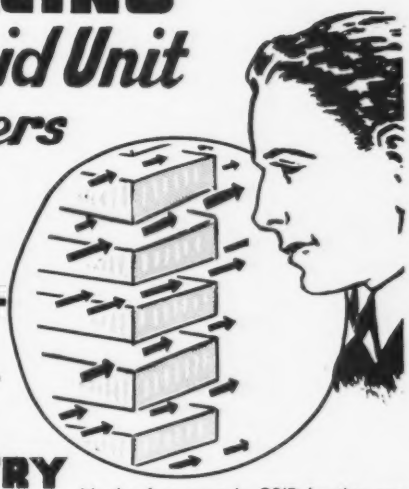
HIGH TEST ONE PIECE CONSTRUCTION **CAST IRON** HEATING SECTIONS

Gentlemen:
The first group of GRID Unit Heaters were installed in our plant in 1937. Our experience has been very satisfactory. The units perform efficiently and other than a small amount of attention to the motors, we have had no maintenance at all on them.

Yours very truly
A MIDWEST TEXTILE MILL

Write today for the complete GRID story—CUH-849-TW, capacity tables and engineering data.

The WIDER FIN SPACING *in Grid Unit Heaters* MAKE THEM SUCCESSFUL IN YOUR INDUSTRY



It's the free area in GRID heating sections that prevents plugged up heating units. GRID condenser sections are made with wide "fins" properly spaced for maximum radiation yet far enough apart to prevent plugging up due to lint laden air. No staggered arrangements, but a straight, clear, passage from back to front. Air passes through freely without obstruction. This feature is standard construction with GRID. No special arrangement is needed. That's why several textile mills report GRID installations best for their service conditions.

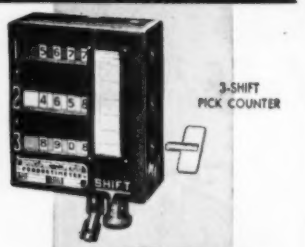
GRID Unit Heaters are designed to save fuel cost too, because they provide heat where it is most needed — to the working zone. Careful selection of fans and motor speeds eliminates stratification of warm air at ceiling level . . .

GRID Unit Heaters are designed for low outlet temperatures and greater air delivery to the floor line — **not the ceiling** . . . that's another reason why textile mills all over the country are using GRID Unit Heaters . . . they are heating their plants comfortably without maintenance or down time due to heating failures.

GRID "fin" heating sections are ONE piece construction high test cast iron — the metal for permanency . . . no electrolysis to cause corrosion, breakdowns, leaks or heating failures, because there are no dissimilar metals used in GRID construction. GRID Unit Heaters will safely withstand steam pressures up to 250 lbs. . . . GRID is maintenance-free, trouble-free heating service. Learn how you too can have successful unit heating service.

D. J. MURRAY MANUFACTURING CO. WAUSAU • WISCONSIN

PRODUCTIMETER
TEXTILE
COUNTERS
for every application!



Productimeters meet every need of the mill man in providing accurate production records. They eliminate losses... help maintain maximum production ... and supply an accurate basis for wage payment.

Send for Catalog No. 50

DURANT MFG. CO.
1931 N. Buffum St. Milwaukee 1, Wis.
131 Orange St. Providence 3, R. I.
Representatives in Principal Cities

PRODUCTIMETERS
SINCE 1879
Speedometers OF INDUSTRY

Useful Accessories
FOR TEXTILE MILLS

To request further information on any item, please use the card on page C of the Reader-Service Dept.; refer to the number at the end of the item concerned.

Floor-Surfacing Material

A new floor surfacing material, Quartex has been announced by United Laboratories, 16801 Euclid Ave., Cleveland 12, Ohio. Quartex is designed to resist severe conditions where floors are subjected to alkalis, oil, grease, fats, and other destructive elements found in industrial plants. The surfacing is applied directly over the old floor surface to a depth of ½ in. and is ordinarily ready for use within 36 hr. It is claimed that the ability of Quartex to withstand heavy loads and its resistance to wear greatly reduce the cost and trouble of floor maintenance. (U-32)

Soft-Consistency Lubricant

A new lubricant has been added to the line of Summitlube products made by the Texas Co., 135 East 42nd St., New York 17, N. Y. The new product, Summitlube O, is white in color and is designed for use on twister rings and other light-duty service in textile mills. The Summitlube line is made for use in bearings and pressure-gun fittings where a white grease is needed. These greases are said to withstand high temperatures and to regain their original consistency on return to normal temperatures. (U-33)

Self-Priming Pumps

Six stationary pumps with capacity ranges from 10 to 300 gal. per min. have been announced by the Deming Co., Salem, Ohio. These pumps are designed to operate against heads up to 250 ft. Priming is said to be fast, automatic, and reliable. A positive non-siphoning feature assures automatic repriming regardless of suction-line conditions. A semi-inclosed, non-clogging impeller is adjustable for wear and permits passage of usual-size solids encountered in dewatering service. Pump casing is bolted to heavy-duty supporting head. Certain models of these pumps can be adapted to handling corrosive liquids by the use of special-alloy end parts. (U-34)

New Design Drum Grinder

The cost of buffing, polishing, and grinding is said to be greatly reduced by using the Cone-Loc drum sander made by American Diamond Saw Co., 519 N.W. Park Ave., Portland 9, Ore. This grinder is designed to replace solid wheels and endless-belt abrasives. Ordinary strips or utility rolls of abrasives can be used at greatly reduced cost. The lightweight, balanced, aluminum split drum is cushioned with rubber. The halves of drum are securely locked together by a cone-type washer. Abrasive strips of standard width in various grits can be quickly interchanged on the drum to accommodate rough or fine work. (U-35)

New Line of Rotary Pumps

An improvement in rotary-pump design has been announced by Worthington Pump and Machinery Corp., Harrison, N. J. The improved design features are incorporated in their new line known as GAMI. A mechanical seal and a self-lubricating type in-board sleeve bearing are used to carry overhung drives. The new line is said to be ideally suited to installations requiring high-vacuum and drip-proof construction. The seal is subject to suction pressure only and retains its tightness best at high vacuum. The new pumps are suitable for handling liquids of various viscosities, from tar and molasses to light liquids such as gasoline. (U-36)

All-Steel Box Truck

A box truck of all-steel construction has been announced by Stackbin Corp., 1157 Main St., Pawtucket, R. I. The truck is said to provide an ideal method for transporting and storing-in process various products and raw materials. A smooth interior and a rolled-top edge remove all danger of damage from splinters, rivet burrs, and other rough spots. Reinforcements of channel iron assures greater rigidity. Standard sizes, finished in baked enamel, have the following dimensions:—length, 33 in.; width, 19 in.; depth, 24 in. Other sizes will be made to specifications. (U-37)

System For Smoke Abatement

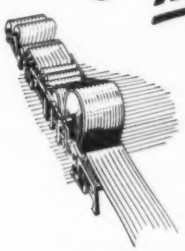
Preventing smoke formation by injecting secondary air into the fire where it is needed and mixing it with the unburned gases is the basis of the PliOjet system announced by Philbrico Firebrick Co., 1800 Kingsbury St., Chicago 14, Ill. The over-fire air-jet principle is not new, but many of the earlier installations were only partially successful. The PliOjet system is said to be a practical means to obtain complete combustion and thus to prevent smoke formation. Every installation is engineered according to individual requirements and prevailing conditions. (U-38)

Corrugated Conveyor Belt

A new conveyor belt, Ruff-Ridge, has been announced by Russell Mfg. Co., Middletown, Conn. A solid woven carcass, impregnated with neoprene solvent cement to resist moisture, is coated on the upper

STALEY PRECISION-MADE STARCHES INSURE THESE THREE BENEFITS ...

① *Uniform* SIZING
② *Better* WEAVABILITY
③ *Improved* FINISH



Why not let Staley's highly skilled laboratory technicians recommend without extra cost to you, correct starches for ALL your sizing requirements? Staley's complete line of modified and unmodified Corn Starches—guarded for uniformity by rigid scientific controls—is acclaimed by leading textile manufacturers for consistent high quality and dependability. Let Staley work with you in eliminating forever your sizing problems, just as this company has cooperated with others for more than a quarter of a century. Write Today for more details!

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Staley's CORN AND SOY BEAN PRODUCTS

STALEY "ECLIPSE" MILL* AND PEARL STARCHES

*THIN BOILING

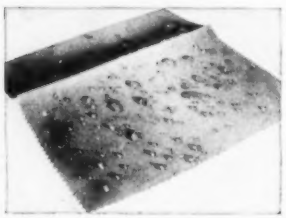
A. E. STALEY MFG. CO., DECATUR, ILL., U.S.A.

Silicone News

DC SILICONES

We've done something about the weather!

We can't plug up the clouds but we can give you the millions of invisible unbrellas that come packed in a pound of the new and durable water repellent, DeCetex 104. These silicone umbrellas are submicroscopic but you can see their mass hatred for rain in the picture below. They roll rain up into droplets that are shed like water from a duck's back.



The remarkable water repellency of DeCetex 104 treated nylon is indicated by the fact that water stands in almost perfect spheres on the fabric.

This is the water repellent treatment for nylon and acetate fabrics that research chemists have been working for years to find. It permits the fabric to breathe and it is durable to dry cleaning and laundering. Fabrics treated with DeCetex 104 require no washing or neutralization to remove residual chemicals. They are odorless and have a soft, smooth, full hand with no apparent increase in mark-off.

DeCetex 104 is especially effective on nylon fabrics which are normally difficult to make water repellent. DeCetex 104 treated nylon, for example, retains its high initial resistance to wetting even after 12 dry cleanings or two 2-hour washings.

DeCetex 104 can easily be emulsified and applied with conventional finishing and resin curing equipment. Cost is comparable to that of other high quality water repellent treatments. For more information about DeCetex 104, phone our nearest branch office or write for data sheet No. 1041 CD8.

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Dow Corning
FIRST IN SILICONES

side with a layer of neoprene-natural-rubber blend. The rubber layer is cured in contact with a mold which forms the top surface into corrugations designed in shape and strength for maximum traction. The abrasion resistance is claimed to be comparable to that of a good-quality tire tread and capable of conveying bagged materials up a 40° incline. The belt is available in several thicknesses and in standard widths up to 24 in. (U-39)

Single Connecting Pin

The adoption of a new single connecting-pin design has been announced by Morse Chain Co., Div. of Borg-Warner Corp., 7601 Central Ave., Detroit, Mich. This connecting pin is for series DRC stock double-roller-chain couplings. It is said that the single connecting-pin design increases the ease with which roller-chain couplings can be assembled and disassembled. Morse DRC roller-chain couplings are made in seven sizes ranging in capacity from 2.7 to 97 hp. per 100 rpm. and are carried in stock with a wide range of finished bores. (U-40)

Portable Self-Priming Pump

Designed for a wide variety of drainage or water handling jobs, a new pump has been announced by The Deming Co., Salem, Ohio. This self-priming centrifugal pump is equipped with a 1½-hp., four-cycle, air-cooled gasoline engine with a high-tension magneto. The pump has a cast-iron casing and a bronze impeller mounted directly on engine shaft. A mechanical-type shaft seal eliminates the need for stuffing box and packing gland. Pipe connections for suction and discharge are both 1½ in. (U-50)

200 Amp. Arc Welder

A new AC transformer arc-welding machine has been announced by Air Reduction Sales Co., 60 E. 42nd St., New York 17, N. Y. This economical portable welder, known as Wilson 200-amp. max. MCT, was specifically designed for use by small shops and maintenance crews. According to the manufacturer the welder is completely self-contained and offers the following advantages: stepless control throughout the two ranges of current adjustment, easy arc starting and stability power factor correction, any desired setting quickly and accurately, easy-to-read scale for current settings, windings insulated with heat-resisting spun-glass fiber, primary "on and off" switch, and 10-ft. length of rubber-covered cable. (U-51)

Dyes & Chemicals

Exsize Available In New Form

A new form of Exsize enzyme desizing agent, Exsize-T, is now available from Pabst Sales Co., Chicago 1, Ill. The product is said to be outstanding in its ability to liquefy and solubilize starch products. Mill tests of the product have been conducted for some time, and it is now in use in many mills.

Exsize-T is a liquid-enzyme concentrate which mixes readily with water, producing a uniform desizing solution. The product has a neutral pH and is harmless to animal or vegetable fiber. The solution can therefore be used with the sheerest and most delicate fabrics.

Exsize-T is said to have excellent stability. Stored with reasonable care at cool temperatures, it can be kept indefinitely without loss of its starch-digesting power, the manufacturer states.

The best pH for the activity of Exsize-T is 7, the neutral point. However, the agent will perform satisfactorily on either side of neutral, provided the solution is not too acid or too alkaline.

Because of the high heat resistance of Exsize-T, there is little or no destruction of activity during the desizing process. The enzyme remains active until all the starch present has been digested. As might be expected, the higher the enzyme concentration used, the faster the desizing.

To request further information, please use the card on page C of the Reader-Service Dept.; refer to D-8.

New Dyes And Agents Announced by General

Six new dyes, a new surface-active agent, and a new mildewproofing and preserving agent have been developed by General Dyestuff Corp., 435 Hudson St., New York 19, N.Y. To request further information on these products, please use the card on page C of the Reader-Service Dept.; refer to the number at the end of each product description.

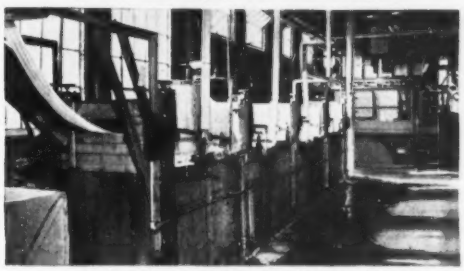
DIAZO BRILLIANT SCARLET BBLA HIGH CONC. CF is a homogeneous diazo-type dyestuff for dyeing cotton, rayon, and other cellulosic fibers in various forms. When diazotized and developed with developer AMS or beta-naphthol, the dyestuff is said to produce bright shades of bluish scarlet possessing fairly good to good fastness to washing on cotton and good fast-

"We're Bleaching Over 175 yds. of Knit Goods per Minute!"

Pottsville Bleaching and Dyeing Co. Reports Excellent Results—in Less Than 2 Hrs., Using

DU PONT CONTINUOUS PEROXIDE BLEACH

Pottsville Bleaching and Dyeing Co. Plant at Port Carbon, Pa.



Continuous Peroxide System for Bleaching knit goods at Pottsville Bleaching and Dyeing Co.

SAYS JOHN L. MILLER, *Pottsville's Vice President and Manager: "We find that our Du Pont Continuous Peroxide Bleaching System requires a minimum of steam, water and chemicals. The entire process from the time the cloth enters the wet-out tub until it leaves the rinsing machine is approximately one hour and forty-five minutes—a very satisfactory performance."*

. . .

The Du Pont Continuous Peroxide Bleaching System at this plant has been in operation since July 1948. During this period they have averaged 12,000 lbs. per day of cotton ribbed knit material and flat knit of all sizes and weights of cloth—an average of 175 to 180 yards per minute.

Du Pont Systems produce quality bleaching at lower overall cost. They are readily adaptable to speedy, uniform processing and are easy to set up, operate and control.

The Pottsville Company's excellent experience with a Du Pont System is duplicated many times by a large proportion of America's leading mills. Why not investigate the outstanding possibilities of Du Pont Continuous Peroxide Bleaching for your mill?

TO BLEACH MORE GOODS FASTER AT LOWER COST

There's a Du Pont System to meet your specific requirements. Du Pont technical service men will help you select equipment and start up your process. Just write E. I. du Pont de Nemours & Co. (Inc.), Electrochemicals Dept., Wilmington 98, Delaware.

DU PONT
CONTINUOUS PEROXIDE BLEACHING

DU PONT

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BETTER THINGS FOR BETTER LIVING
...THROUGH CHEMISTRY

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Electrochemicals Department, Wilmington 98, Del.

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Utmost care is taken to obtain only the choicest jute fiber for Angus burlap. It is then processed to rigid specifications to assure the extra strength and finer appearance for which Angus is famous.

BEMIS TITE-FIT BURLAP TUBING saves time and money for those who package odd-shaped and bulky products.

WORLD'S LARGEST IMPORTER OF BURLAP

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ness to washing on rayon. The product is valuable for dyeing rayon piece goods where good wet fastness is required and moderate light fastness is sufficient. Aftertreatment with an anticrease resin finish is said to improve the light fastness distinctly. Wash fastness is improved. (D-9)

ACID CHROME BLUE 3GA-CF is a mordant acid dyestuff designed to produce full greenish-blue shades on wool with very good fastness to light, fulling, washing, perspiration, carbonizing, water, salt water, crocking, hot pressing, and alkali.

When applied by the silk-white method, this dyestuff leaves silk white. The product can also be applied to wool by the afterchrome method where silk-white effects are not involved. By either method of application, cotton, viscose rayon, and acetate rayon are left unstained.

Because of its very good fastness properties and its ability to leave silk and other effect threads white, the dyestuff could be especially useful for dyeing woolens and worsteds in the piece. The very good fastness of the color to wool processing could also make it useful for dyeing loose wool, tops, and yarn.

While most chrome blues turn redder in artificial light, acid chrome blue 3GA-CF is said to turn greener. (D-10)

BENZO FAST COPPER BLUE FBLA-CF is a new homogeneous dyestuff suitable for the dyeing of cotton, rayon, and other vegetable fibers in their various forms. Dyed on cotton or rayon and aftertreated with copper sulphate and acetic acid, the dyestuff produces fairly bright shades of greenish blue said to possess very good fastness to light on cotton and excellent fastness to light on rayon. The fastness to washing is said to be fairly good on both cotton and rayon. Aftertreatment with an anticrease resin finish improves the light fastness slightly and the wash fastness to a distinct degree. The product aftertreated with copper sulphate is especially useful for the dyeing of hosiery and hosiery yarns. Benzo fast copper blue FBLA-CF may also be used as a direct color without copper aftertreatment for producing fairly bright blues possessing moderate fastness to washing on cotton and moderate to fairly good fastness to washing on rayon. The light fastness is moderate on cotton and fairly good on rayon. An aftertreatment with an anticrease resin finish improves both the light fastness and the wash fastness distinctly. When used as a direct color only, the product is sufficiently free from copper and manganese to be suitable for the dyeing of material to be rubberized. (D-11)

DIAZO FAST BORDEAUX FBLA-CF is a new homogeneous diazo dyestuff. When applied to cotton, rayon, or other vegetable fibers and developed with developer AMS or beta-naphthol, the dyestuff produces bright shades of bordeaux with good wet fastness properties.

Wash fastness is fairly good to good on cotton and rayon. The light fastness is moderate to fairly good on cotton, and good on rayon. Aftertreatment with an anticrease resin finish improves the light and wash fastness slightly. (D-12)

PALATINE FAST ORANGE GENA-CF is a metallized acid dyestuff which possesses fastness properties closely approaching those of chrome colors. The dyestuff is yellower than the GNA-CF brand and may be used as yellow-shading dyestuff for fast-to-wear mode shades on better grades of ladies' and men's wear. It can be used on piece goods (especially gabardines), knit goods, hosiery, carpet yarns, and on loose wool or roving which is to be given a light fulling. (D-13)

ALGOSOL RED IFBB-CF is a water-soluble leuco ester of the vat dye Indanthrene Red FBB. When applied in dyeing or printing, the dyestuff produces shades and fastness properties corresponding to those of the vat dye. The product dissolves easily in water and can be readily developed. The substantivity can be increased by adding salt to the dyebath.

The dyestuff is also suitable for printing on cotton according to the sodium-chlorate or sodium-chromate methods, producing reds of excellent fastness to light, washing, and chlorine. Because of its fastness to light, it is recommended for use on drapery and upholstery fabrics. (D-14)

KATAPOL K CONC. is a synthetic surface-active agent possessing cleaning, wetting, dispersing, and level-dyeing properties. The product differs from most surface-active products in being cationic active. The agent can be used as a scouring agent for wool in neutral or acid solution, as a scouring agent and a dyeing assistant for shearlings, as a cationic stabilizing agent, and as a cationic penetrant. (D-15)

PREVENTOL GDC LIQUID is a ready-to-use alkaline water solution of mildew-proofing bactericidal and preserving agent Preventol GD. The agent can be used to prevent mildew, rot, fermentation, spoilage, and souring. (D-16)

SODA ASH ★ CAUSTIC SODA ★ CHLORINE ★ BICHROMATES ★ BICARBONATE OF SODA ★ SILICATE OF SODA

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HOW ABOUT A FRESH POINT OF VIEW?

Of course, you have been handling and storing chemicals for some time. But a new pair of eyes, trained in chemicals, may be able to make helpful suggestions. Sometimes, the most stubborn little problems yield to the fresh point of view of an informed outsider.

DIAMOND ALKALI salesmen are conversant with all aspects of the chemicals they sell. Behind them is the continuing study in the care and keeping of chemicals carried on by DIAMOND. Think of your DIAMOND representative as more than a salesman. He has broad knowledge. Please feel free to consult him about any plant problem pertaining to chemicals.

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ACETATE YARNS Dyed From CHEESES or TUBES

The new cheese or tube put up on acetate yarn is an excellent supply for package dyeing and gives you the lowest yarn cost.

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Book Reviews

Secret of Our Productive Power

PRODUCTIVITY, KEY TO PLENTY, a two-reel black-and-white sound film (16-mm); produced by The Twentieth Century Fund and Encyclopaedia Britannica Films, 450 West 56th St., New York, N. Y.; purchase price $75.60, rental price $5.

Here is a film showing the technological and economic development of the American people since the industrial revolution. In it is seen the swift growth of American industry in a land unfettered by tradition, the development of machine-power methods of production, and the resulting rise of our standard of living to levels previously undreamed of. Just how we have achieved the capacity to produce abundantly, to the benefit of all of us, is the theme of the film. Our high living standard rests primarily on our output per worker per hour, made possible by our use of inanimate energy expressed in ever-increasing mechanical power. The thought left with the viewer of the film is that we can raise our national income to new highs only of our individual productivity can be increased at a rate at least equal to that of the past 50 to 100 years.

Labor Takes a Look At Time-Study Methods

A TRADE UNION ANALYSIS OF TIME STUDY, by William Gomberg; Science Research Associates, Chicago, Ill.; 243 pages, $4.25.

The author of this book has had some experience with rate-setting in his position as director of the management-engineering department of the International Ladies' Garment Workers Union. He does not try here to discredit time study as a technique of wage-setting in any branch of the textile industry; but he does review some of the important, but often unrecognized, assumptions underlying the "science." A discussion of the "constant" factors necessary to make time study a science leads into enumeration of variables still uncontrollable: mechanical, physiological, psychological, and sociological. At best, existing time-study methods should be considered as mere guides to setting up a range within which collective bargaining over production rates can take place. The book closes with a look forward to a new era of collective bargaining, stemming from broader social concepts, in which humane "intuitions" are more frequently followed by management than they have been in the past, "notwithstanding doctrines that deny their correctness."

O. T. S. Reports On German Dyes

GERMAN DYESTUFFS AND DYESTUFF INTERMEDIATES, PB 85172, 3 volumes, by D. B. Andrews and others; Office of Technical Services, Dept. of Commerce, Washington 25, D. C.; $5 per volume.

This three-volume report is an unusually complete collection of formulas for German dyes and dyestuff intermediates. It contains references to formulas for 30 blues, 20 oranges, and a substantial number of reds, yellows, greens, browns, grays, and blacks, including those used for vat dyeing as well as printing. Other reports relate to intermediates, methods of applying dyes to various materials, testing techniques, layout and flowsheets, and laboratory and production equipment whose construction details are given. Volume I includes processes and procedures; Volume II, engineering data; and Volume III, research.

Automatic Machinery As Seen From Britain

AN INTRODUCTION TO AUTOMATIC WEAVING, by G. A. Bennett; Harlequin Press Co. Ltd., Manchester, England; 208 pages, 15 shillings.

In this book the author discusses modern automatic weaving and preparation practices; and describes and illustrates with 40 full-page plates a wide variety of British, continental, and American looms and high-speed winding, warping, and sizing machines. To the American mill man, raised in a completely automatic-machinery economy, value from this book will come from seeing what Britain and Switzerland are bringing out in the way of machines to increase production per operative in every possible way. Others will derive from the book a deeper insight into the better organization and more efficient training of labor that are possible in an automatic textile plant.

FOR BETTER INDUSTRIAL LIGHTING LOOK FOR THE "HIDDEN PLUS"

You can't see the ballast in an assembled fluorescent lighting fixture—yet the quality of the ballast largely determines the quality of the fixture.

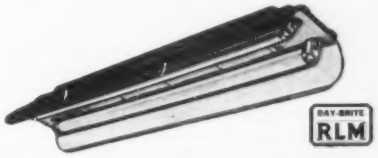
A Certified ballast is the "hidden plus" which assures full lamp life, quiet operation, rated light output and dependable performance for the life of the fixture. In short, a fixture with a Certified ballast will do its job *well* over a *long period* of time.

But how can you identify a top quality ballast? Easy! Just look for the Certified E. T. L. shield right on the ballast.

CERTIFIED ETL SPEC NO. 6 HIGH PF

This shield can be placed only on those ballasts which have met strict specifications and have been checked and tested by Electrical Testing Laboratories, Inc., an *impartial* judge.

The easiest way to turn out an "economy" fixture is to install a cheaper ballast—a part you don't normally see. But "cheap" fixtures *can't* deliver dependable, efficient lighting. Demand the "hidden plus"—the Certified E.T.L. shield on the ballast—and get *better* lighting.



DAY-BRITE'S NEW "TUR-A-TOP" FIXTURES HAVE THE "HIDDEN PLUS"... AND MORE!

You'll find the ballasts in "Tur-A-Top" fixtures are Certified E.T.L. ballasts. And you'll find many other points of superiority, such as:

- ✔ **ONE-PIECE TOP,** stamped out of deep drawing steel—strong and attractive in appearance.
- ✔ **TWO COATS OF PORCELAIN** for extra resistance to chipping, acid and alkali.
- ✔ **RIGID LAMP HOLDERS** fastened to the stamped top for extra strength.
- ✔ **NO-BLINK LAMP STARTERS** are easily accessible without disturbing the lamps.
- ✔ **BEADED REFLECTORS** to assure that "Tur-A-Top" reflectors can never become bowed or wavy.
- ✔ **WING NUTS** have extra large 2-inch diameter to prevent chipping, assure positive mounting of reflector to channel. Off and on in one minute—no tools required.

Like all machinery, an industrial lighting fixture is best judged on the basis of *high quality* . . . to assure low maintenance and replacement cost. Start *right*... with Day-Brite. Specify Day-Brite "Tur-A-Top" fixtures... and save money in the long run. Write today for Bulletin 30-B.

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In Canada: Amalgamated Electric Corp., Ltd., Toronto 6, Ontario

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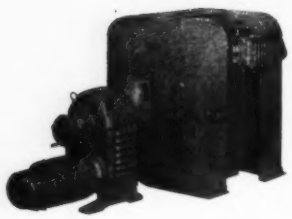

Whatever your cutting requirements, a Taylor-Stiles machine will meet them—with equipment that gives fast, low-cost production.

The No. 12 Staple Cutter cuts any fiber in rove, sliver or continuous filament into uniform lengths. Easy, quick changes in length can be made by a simple adjustment.

Other machines for cutting wool rags and garments into small pieces; for cutting hard-wound wool strippings and string waste into useable fiber.

If you do cutting of any kind, a Taylor-Stiles machine offers efficiency plus top performance under all conditions of use.

Full details in our illustrated catalogs—write for one today.

TAYLOR-STILES and Company
CUTTING MACHINES & KNIVES

15 Bridge St., Riegelsville, N. J.

News of the month

Launderable Woolens. A new shrink-resistant wool has been developed by the laboratories of the Philadelphia Quartermaster Depot after a research program carried on for three years in cooperation with the textile industry. Educational orders to 20 mills have been granted by the Quartermaster Corps, to give mills some experience in manufacturing with the wool prior to future large-scale procurements. Louis I. Weiner, technologist in charge of the research group, revealed that felting under washing with hot water could now be prevented by covering the ratchet-like surface of the fiber with a chemical. The normal warmth, resilience, and strength of the wool are claimed not to be impaired.

Cottonseed Into Fiber. Two new synthetic fibers, one made from cottonseed protein and the other from chemically modified cellulose, have been produced experimentally at the U. S. Department of Agriculture Southern Regional Research Laboratory in New Orleans, La. The cottonseed-protein fiber is about three-fourths as strong as wool when dry, has a soft hand, and has good dyeing characteristics. A yellow or light orange in color, the fiber has a wet strength about 40% of the dry strength. The other new fiber is spun from sodium carboxymethyl cellulose and the salts of certain metals, including lead, copper, and aluminum. It is colorless or lightly tinted, depending on the metal used. Like the new British alginate yarn, it will dissolve in soapy water or other weak alkali solutions. Its dry strength is about equal that of wool.

Low Inventories Important. American textile mills should watch their inventories, according to Dr. Claudius T. Murchison, president of Cotton-Textile Institute, in a talk given at the annual meeting of the Cotton Manufacturers Assn. of South Carolina at Asheville, N. C. He noted that 1949 could be compared with 1937, when textiles went through a similar period of "fears, worries, and losses—but we got through." A hopeful note today is that mills do not have a tremendous inventory. Inventory is the number one point of approach because it leads to price stability. Stability of price, and not the price itself, is the most important mill consideration, he concluded.

Cotton Grades Improved. Grade improvements averaging ⅓ of a grade on lint-ginned cotton as against mechan-

Textile Calendar

Beltwide Cotton Mechanization Conference, Bennettsville, S. C., Aug. 17 to 19, 1949.

Scottish Industries Exhibition, Kelvin Hall, Glasgow, Scotland, Sept. 1 to 17, 1949.

Levante Fair, Bari, Italy, Sept. 4 to 21, 1949.

AATCC, Philadelphia Sect., Kugler's, Philadelphia, Pa., Sept. 16, 1949.

NACM, 95th annual meeting, Marshall House, York Harbor, Maine, Sept. 22 and 23, 1949.

Textile Machinery Exhibition, Manchester, England, Oct. 12 to 22, 1949.

North Carolina Cotton Manufacturer's Association, annual meeting, Carolina Hotel, Pinehurst, N. C., Oct. 13 and 14, 1949.

American Association of Textile Chemists & Colorists, annual meeting, Chalfonte-Haddon Hall, Atlantic City, N. J., Oct. 13 to 15, 1949.

Carded Yarn Association, annual meeting, Sheraton-Bon Air Hotel, Augusta, Ga., Oct. 27 and 28, 1949.

Cotton-Textile Institute, annual meeting, New York, Nov. 3, 1949.

AATCC, Piedmont Sect., Charlotte Hotel, Charlotte, N. C., Nov. 5, 1949.

AATCC, Philadelphia Sect., Kugler's Philadelphia, Pa., Nov. 11, 1949.

Plant Maintenance Show, Auditorium, Cleveland, Ohio, Jan. 16 to 19, 1950.

National Cotton Council, annual meeting, Hotel Peabody, Memphis, Tenn., Jan. 23 to 25, 1950.

Southwest Air-Conditioning Exposition, State Fair Park, Dallas, Texas, Jan. 23 to 27, 1950.

Underwear Institute and National Knitted Outerwear Association, joint underwear and outerwear suppliers exhibition, New York, spring of 1950.

ACMA, annual convention, Biltmore Hotel, Palm Beach, Fla., March 30 to April 1, 1950.

Carpet Institute, Carpet Fashion Opening, New York, April 17 to 27, 1950.

American Textile Machinery Exhibition (and Allied Industries) sponsored by National Association of Textile Machinery Manufacturers, Atlantic City Auditorium, Atlantic City, N. J., May 8 to 12, 1950.

Cotton Manufacturers Assn. of South Carolina, annual meeting, Fort Sumter Hotel, Charleston, S. C., May 11 to 13, 1950.

National Materials Handling Exposition, International Amphitheatre, Chicago, Ill., June 12 to 16, 1950.

Southern Textile Exposition, Textile Hall, Greenville, S. C., Oct. 2 to 7, 1950.

American Association of Textile Chemists & Colorists, annual meeting, Hotel Statler, Boston, Mass., Oct. 19 to 21, 1950.

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☐ **improve your goods?**

☐ **speed your production?**

☐ **boost your profits?**

Added friction, stronger yarn, and improved sizes and finishes are among many advantages you get with "Ludox" colloidal silica

When processing natural or synthetic fibers and fabrics, the chances are that Du Pont "Ludox" colloidal silica can help you do it *better*—and *faster*. And this means an opportunity to expand your sales with increased production or improved products!

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CHECKS FABRIC AND FIBER SLIPPAGE

Excellent results in treating both fabrics and fibers with "Ludox" have been reported by textile men.

For example, application of 0.5 to 1% "Ludox" solids to rayon fabrics is effective in substantially eliminating yarn slippage. "Ludox" is also being used for the preparation of weave setting composition to obtain specific hand effects.

Increased friction resulting from use of "Ludox" also strengthens the sliver, roving and yarn. In one case application of 0.1% "Ludox" solids to staple increased card and draw sliver strength by 95 and 116% respectively, with complete elimination of card breaks, which had been a severe problem with this particular synthetic staple.

IMPROVES SIZES AND COATINGS

Textile finishers, too, are using "Ludox" in their sizes and coatings to get increased bond and film strength, increased friction and water resistance, and less dry tackiness.

The textile industry is finding new and varied uses for "Ludox" colloidal silica.

How can "Ludox" help you? A Du Pont Technical Representative will be glad to visit your plant and study your problems.

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BETTER THINGS FOR BETTER LIVING
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E. I. du Pont de Nemours & Co. (Inc.)
Grasselli Chemicals Dept., Wilmington 98, Delaware

Please send me latest Technical Bulletin on "Ludox" colloidal silica

Name_____ Title_____

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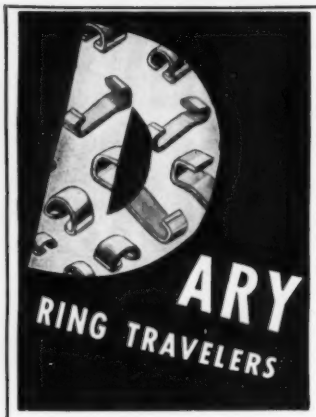


Traveling Salesmen

Dary has five of the most competent representatives in the traveler industry but perhaps the most prolific Dary salesman is the Dary Ring Traveler itself! The superior all-round performance of Dary Travelers on every spinning and twisting assignment is all the sales talk most spinning room foremen need. One trial quickly demonstrates the hard, smooth durability and uniform balance which make Dary Ring Travelers last *longer*—even at higher spindle speeds.

The next time you need travelers specify Dary Ring Travelers. These "traveling salesmen" will tell their own sales story as you watch their superior on-the-job performance around your spinning rings. Your regular Dary representative will be glad to help, too. Call him whenever you want traveler information.

PROCESSED
SYMBOL OF
SUPERIORITY

DARY RING TRAVELER CO.
TAUNTON, MASSACHUSETTS

John E. Humphries, Box 843, Greenville, S. C.
John H. O'Neill, Box 720, Atlanta, Ga.
James H. Carver, Box 22, Rutherfordton, N. C.
Crawford Rhymer, P. O. Box 2261, Greenville, S. C.

ically picked cotton were obtained on a special cleaning process called the lint cleaner, Francis L. Gerdes, head of the Stoneville laboratory in the Research and Testing Div. of the Dept. of Agriculture, revealed at the fortieth annual convention of the Southern Textile Association. Approximately 150 gins will be equipped with the cleaners to improve the grade of rough hand-picked and mechanically harvested cotton during the coming season. Under present market conditions, it was estimated that a high proportion of mechanically harvested cotton must have a value of at least Strict Low Middling to make mechanically picked cotton profitable. A commercial type of lint cleaner is now being tried out in the opener room of a Southern cotton mill.

Bell Sees Stability. Cotton fabric values are scraping the level reflecting fixed costs, and there is no possibility of such costs easing as long as the government supports cotton prices and the existing plateau of wage rates continues, said W. Ray Bell, president of The Association of Cotton Textile Merchants of New York, recently. Thus, until better demand appears, the most effective course mills can follow toward the recreation of confidence is to limit production to the effective demand reflected in day-to-day buying. The association released its annual Ten Year Chart of cotton textile statistics. Total production in 1948 was shown as 10,863,129,000 sq. yd., as against just over 11,000,000,000 sq. yd. in 1947 and just over 9,000,000,000 sq. yd. in 1939.

Why Mills Move South. Manufacturers with plants in both North and South find the southern workers more cooperative, according to Edwin Wilkinson of the National Association of Wool Manufacturers at a panel discussion held by the New England Council at Manchester, Vt., recently. Southern workers are willing to try new methods and take new job assignments on improved machinery that will increase both personal and plant efficiency. Such employee cooperation makes investment in new machinery and plant improvement profitable to the manufacturer, the speaker maintained. Other Southern differentials are passing, such as power costs, freight advantages, tax inducements, and wage differentials. Union members at the meeting declared the real differential was the need of new machinery in New England, and said it was only recently that New England manufacturers sought cooperation from labor.

TEXTILE WORLD To Be Available in Microfilm

► **TEXTILE WORLD and other McGraw-Hill publications will soon be available to libraries in microfilm form. An agreement has been made with University Microfilms, Ann Arbor, Mich., in an effort to aid libraries in providing adequate space for a constant flood of publications.**

Microfilm makes it possible to produce and distribute copies of periodical literature on the basis of the entire volume in a single roll, in editions of 30 or more, at a cost approximately equal to the cost of binding the same material in a conventional library binding.

Under the plan, the library keeps the printed issues unbound while they are in their period of greatest use. When the paper copies begin to wear out or are not called for frequently, they are disposed of and the microfilm is substituted.

Sales are restricted to those subscribing to the paper edition, and the film is to be distributed at the end of each volume year.

Full-Fashioned Machinery. On April 1, 1949, there were 12,114 full-fashioned machines in place in the United States, according to the 19th Statistical Survey of the industry by Textile Machine Works, Reading, Pa. The 12,114 machines contained 296,125 machine sections, or an average of 24.4 sections per machine. In terms of legger sections, 51 gage and higher constituted approximately 40% of the productive equipment, as compared with 33% a year ago. Of the total number of machine sections, 42-gage represented 21%, 45-gage 36%, 51-gage 35%, and 54-gage and higher about 4%. The average age per machine is 14.76 years; 29% of the machines are less than ten years old. There is no modern machinery in 38% of all full-fashioned mills, while 25% have only modern machinery, and 37% operate both old and modern machines. Machines scrapped in 1948 were 368, representing 8,094 sections, a majority of the scrapped machines were 42-gage.

Veterans Studying Textiles. More than 5,400 World War II veterans are training under the G. I. Bill and Public Law 16 to fill occupations in the manufacture of textiles. Included are 3,652 taking courses in textile operations in trade and vocational schools, and 1,500 training on-the-job for weaving, loomfixing, and other occupations in the industry.

Clemson Knitting Course. Clemson College Textile School plans to give an expanded course in knitting for the first time this fall. A full major will be offered in this field. At the same time, graduate work will be initiated in tex-

HAYES new way
... cuts costs TODAY

A Weaver at Jallalabad

Profit is Greater When Light Metal Beams Cut Costs

Yard-a-day production on primitive equipment has given way to modern high speed production machines.

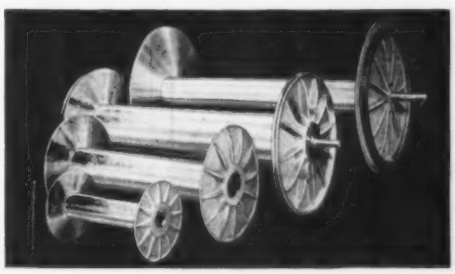
Newest development to enable textile mills to attain the maximum in efficiency on modern equipment at lowest cost are the light metal beams pioneered and produced by Hayes Industries.

These Hayes aluminum and magnesium beams are accurately cast and machined. Perfactly balanced, they rotate smoothly and uniformly without vibration. Flanges and barrels are satin smooth, highly polished . . . cannot splinter, snag or rust . . . sharply reduce rejects . . . when fully loaded with fine denier acetate yarn head deflection is scarcely measurable.

Substantial savings are possible because Hayes beams weigh less than half as much as conventional types. Shipping and handling costs are reduced . . . manpower productivity is increased . . . worker fatigue is lessened.

Hayes Loom Beams, Tricot Beams and Section Beams fit all standard warpers and machines. Shafts of loom and section beams are removable.

Write or wire for complete information on Loom Beams, Section Beams and Tricot Beams. Ask for Catalog 1-21.



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Strong • Accurate Easy-To-Read

Here is the ideal thermometer for your dyehouse, a tried and proved product of Reading Scientific Company.

Frame constructed of heavy seasoned wood, 18" overall length, with screw-in handle for easy cleaning. Two-color paper scale, printed graduations clear and will not fade.

Accurate to within one degree (plus or minus) on the scale. Fahrenheit Range 20-230 degrees or Centrigrade Range 10 to 110 degrees. Individually boxed.

EACH $2.25
In lots of one dozen or more $24.00 dozen

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NYLTEX - G

A Single Trough Solution for MONOFILAMENT and MULTIFILAMENT

YARNS

- Keeps troughs clean
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- Odorless
- Inhibits Rust

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tiles. At commencement this year, 106 seniors received their B.S. degrees.

Georgia Institute Laboratory. What are hoped to be the "finest laboratories of industrial engineering in the world" will probably be ready for the fall quarter at Georgia Institute of Technology, Atlanta, Ga. The expanded facilities have been made possible by a gift of $15,000 from the Rich Foundation and Rich's Inc.

ITT Grants 12 Degrees. The Institute of Textile Technology awarded its first degrees recently in ceremonies held on the institute grounds at Charlottesville, Va. Twelve men received the degree of master of science at the research center and graduate school first graduation exercises. The value of advanced technical education was stressed in the commencement address by Colgate W. Darden, Jr., president of the University of Virginia.

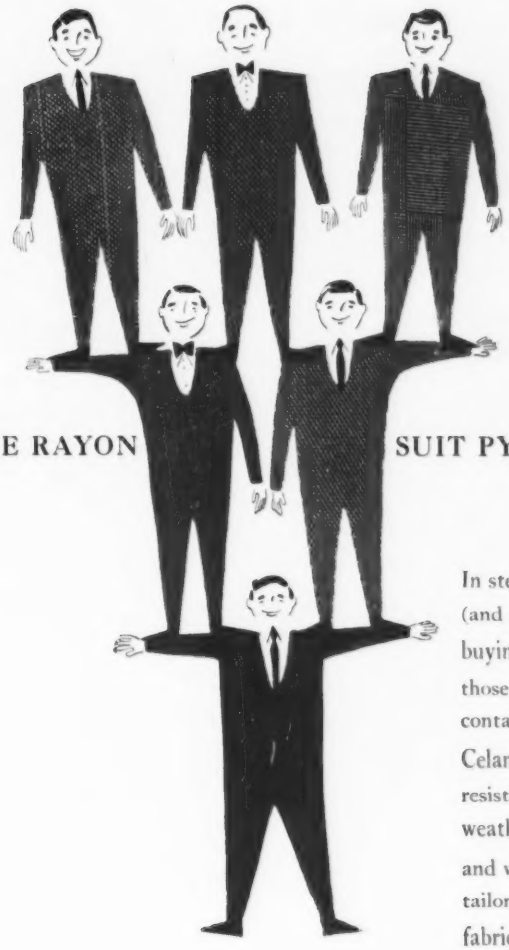
New Teaching Approach. An entirely new approach in the training of textile students is necessary in today's trend to the all-fiber mill and the increasing use of fundamental research to solve the age-old problems of textile manufacture, said Prof. Edward R. Schwartz, Massachusetts Institute of Technology, in his address at the textile-school staff conference recently at Lowell Textile Institute. Over 100 members of the teaching staffs of the 12 U. S. textile schools were present for the round-table discussions of their mutual problems.

Expanding Its Curriculum. The yarn-manufacturing department at the New Bedford Textile Institute is expanding its curriculum to include the theory and practice of the worsted manufacturing on the American system (spinning worsted yarn on cotton-type machinery). The school has installed a Whitin LWB drawing frame equipped with Chapman static neutralizer, a Whitin super-draft roving frame, and a Whitin spinning frame, all with special roll stands. At recent graduation exercises, the school presented certificates to 102.

PTI Receives $120,000. One of the largest gifts ever received for textile education, $120,000, was presented recently to The Philadelphia Textile Institute Foundation by the Scholler Foundation. Fred C. Scholler, president of Scholler Brothers, Inc., and a vice president of the PTI Foundation, made the presentation to Col. Millard D. Brown, president of the foundation. Two-thirds of the gift will be used to build and equip the dye laboratory at School House Lane and Henry Ave., Germantown. The new laboratory, 5,500 sq. ft., will house both the old equipment from the Broad and Pine St. building and $15,000 worth of new equipment. The balance of the gift will be used towards the $150,000 still needed for the expansion of the institute at Germantown.

Experts Disagree on Crisis. A crisis in world textiles is approaching, according to several experts in the international field. From the American point of view, currency restrictions and the desire of European countries to sell while refusing to buy are the cause of the slowing down of international textile trading. This view was expressed recently by William De Minn, retiring president of the Textile Export Assn. of the United States. European economists interviewed at Annecy, France, on the other hand, wondered how they could increase their exports and earn more American dollars, which are necessary for foreign industrial modernization. They fear the United States is about to raise its tariff barriers under pressure from American concerns suffering from the current price recession. Europeans hesitate to take the risk of devaluating their currencies to gain temporary export advantage to the United States, while American agitation is increasing against accepting the charter of the International Trade Organization.

Weaving Team Comments. Continuity of quality in American rayon weaving mills struck three representatives of the United Kingdom Rayon Weaving Team No. 2 as the most impressive aspect of their recent six-week trip through 20 American plants. Harold Siddle, manager of Woodhouse Carter Ltd. in Yorkshire, liked the humidity controls, job breakdowns, and cloth designing suitable for automatic production on a large scale. William Hilton, overlooker (section-hand fixer) of Courtaulds Ltd. in Lancashire, appreciated the great care given to yarn preparation, the standardized loom settings, and the elimination of unnecessary handling of the yarn. William Duerden, weaver of John Stansfield & Son Ltd. of Lancashire, liked the attitude of man-to-man on the job, but wondered if the higher speeds and definite job breakdowns had not taken the "craft" out of weaving. All three thought safety precautions in Britain were more complete than those practised in the United States.



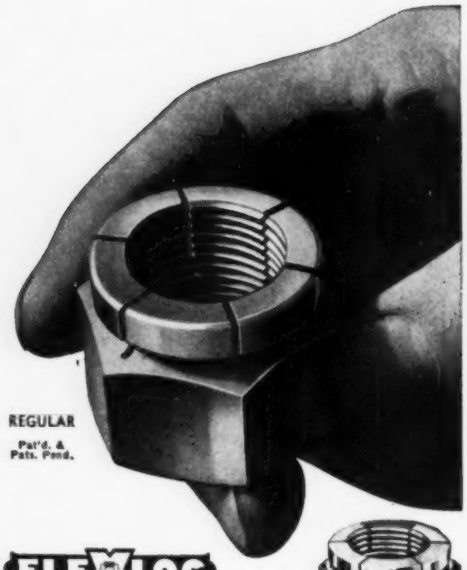
THE RAYON SUIT PYRAMIDS TO A PAY-OFF!

In steadily growing numbers . . . men (and count the women in, too) are buying "the good rayon suit". Particularly those made of newly developed fabrics containing a substantial proportion of Celanese* staple fiber! Crisp and wrinkle-resistant, they take a cool view of hot weather. And for their variety of textures and weaves, their suitability for soft or tailored treatments, they're making fabric news. Keep up with this news and share in the profits!

Celanese Corporation of America,
180 Madison Avenue, New York 16, N. Y.

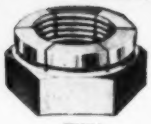
Shown here are a variety of current menswear fabrics containing a substantial proportion of Celanese staple fiber.
Reading left to right, top to bottom, these suitings are from: Dan River Mills; Textron Inc., Colonial Mills; Cone Mills; Verney Corporation; Greenwood Mills.

Celanese® ACETATE RAYON STAPLE FIBER
*Reg. U. S. Pat. Off.



FLEXLOC

ONE-PIECE
SELF-LOCKING
NUTS


THIN

. . . WON'T SHAKE LOOSE
. . . REDUCE MAINTENANCE

Invariably, when nuts loosen, they cause shutdowns, loss of production, and bad tempers all around. All this can readily be eliminated by installing the one-piece, self-locking "FLEXLOC", because *it positively will not shake loose* and positively cuts cost of maintenance.

The all-metal, one-piece resilient "FLEXLOC" is becoming increasingly popular, because it is processed to have an exceptionally uniform torque and, because it packs a stop, lock and plain nut all in one. "FLEXLOC" accommodates itself to a wide range of thread tolerances and can be used over and over again without losing much of its torque. And, being a stop nut, it stays locked in any position on a threaded member. It is not affected by temperatures commonly met within the industrial field of Mechanical Engineering.

Available in "thin" and "regular" types—in sizes from #6 to 2" in diameter—in NC and NF thread series. Write for your copy of the "FLEXLOC" Catalog.

OVER 46 YEARS IN BUSINESS

SPS STANDARD PRESSED STEEL CO.
BOX 571, JENKINTOWN, PENNSYLVANIA
"Serving Industry continuously since 1903 through Industrial Distributors"

NEWS ABOUT Suppliers

Equipment Suppliers

Allis-Chalmers Mfg. Co. has appointed J. D. Greensward general manager of the plant at Norwood, Ohio. He succeeds Frank H. Stohr, who died last March. In his new position, he will have charge of 1,600 persons in the manufacturing of small electric motors and pumps.

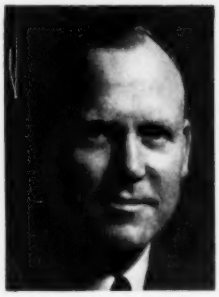
American Viscose Corp. received one of the awards in the 1949 International Industrial Publications Contest. The citation to the Avisco News read: "In recognition of exceptional accomplishment in achievement of purpose, excellence of editorial content, and effectiveness of design."

Automatic Transportation Co., Chicago manufacturer of electric industrial trucks, has appointed Conlan and Ayers Co. as its sales and service representative in Wisconsin. The firm will handle Automatic's full line of electric trucks and motorized hand trucks.

Baker Industrial Truck Division of The Baker-Raulang Co., Cleveland, Ohio, has appointed John A. Matousek as manager of manufacturing. He will have charge of all manufacturing, purchasing and engineering functions. George J. Albright, Jr., is the new district sales representative in Memphis, Tenn.

Chain Belt Co. has appointed Charles Pingry as district sales engineer to the Dallas office. Charles Moeller is the new district sales engineer in Kansas City.

Electric Machinery Mfg. Co. has appointed Alfred J. Kroog as sales representative in Georgia. He was associated with General Electric Co. for 17 years. He will be located at Decatur.



HAROLD L. MUSCHAMP, Muschamp Taylor Ltd., of Manchester, England, who completed arrangements in the United States for Foster Machine Co. to build the Muschamp Taylor line of automatic and semi-automatic filling winders.

Fafnir Bearing Co. has appointed Harry R. Reynolds as consulting engineer, and Howell L. Potter as his successor in the position of chief engineer. Mr. Reynolds has been with Fafnir since the company's formation in 1911. Mr. Potter has been with the company for 15 years.

General Electric Co. has named Harold E. Strang manager of the G-E Apparatus Department Meter and Instrument Divisions at Lynn, Mass. He succeeds Nicholas M. Du-

AMF To Sell in U. S. Titan Textile Machinery

The automatic warp tying machine and the automatic heddle indicator [TW June, '49, pp. 141 and 148] of Titan Ltd., Copenhagen, Denmark, are to be stocked, sold, and serviced in the U. S. by American Machine & Foundry Co., Stitching Machine Div., 261 Fifth Ave., New York, N. Y., through the Edda International Corp. of New York. Other Titan textile machines now being developed are expected to be offered by AMF after current field trials are completed.

The tying machine ties 6,000 to 18,000 warp ends per hour. The indicating machine shows drawing-in hands which heddle to draw next.

TEXTILE BANKING COMPANY

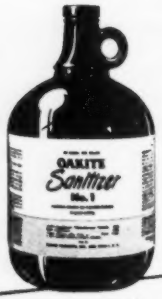
Inc.

Factoring Service

Puts your sales on a cash basis
Strengthens your cash position
Relieves you of credit losses

55 MADISON AVENUE • NEW YORK

Puts an end to such humidifying troubles as:

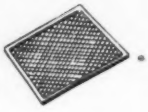


X	persistent "slime odors"
X	slime clogging spray nozzles
X	clogged overflow drains and return lines
X	algae, slime sprays blowing over equipment

OAKITE SANITIZER No. 1 the new quaternary-ammonium germicide will help eliminate these and other humidifier troubles. Simply add ¼ to ⅛ pint of this powerful germicide-disinfectant to each 1,000 gal. of system water. Its potent algaecidal action keeps water clean and sweet-smelling. Solutions are non-corrosive, non-staining. For further details write for Report No. A-8558. Free, without obligation.

Descaling humidifier sprays: Try Oakite Compound No. 32, the scientifically inhibited acidic descalant, for fast and complete removal of lime scale from sprays, nozzles, tanks, return lines.

Desliming wire screens: Before replacing screens in humidifier tanks, soak them in hot solution of quick-penetrating Oakite Composition No. 22. Cuts through slime and dirt without harming underlying metal. Use its solutions, too, to circulate through lines and tanks.



Do you have a copy of the Oakite "66" Digest? Describes 66 ways to cut maintenance cleaning costs in your mill. Free, without obligation. Write today!

OAKITE PRODUCTS, INC., 42 Thames St., NEW YORK 6, N. Y.

OAKITE
REG. U. S. PAT. OFF.
INDUSTRIAL CLEANING MATERIALS • METHODS • SERVICE

Technical Service Representatives Located in Principal Cities of United States and Canada

NEWS ABOUT *Suppliers*

Chemin, who recently was named an assistant general manager of the department.

Hughes Fawcett, Inc., New York, has been appointed U. S. selling agent for Lignostone shuttles, picker sticks, and loom accessories. [T.W., Apr., '49, p. 148], by Techno Exports, representatives of the Dutch manufacturer.

H. F. Livermore Corp., of Boston, Mass., has opened Southern offices in Greenville, S. C., for the distribution of loom parts to mills. The Boston firm occupies a new warehouse built for its use. All of the work of the firm in the South will be handled from the Greenville office.

Francis H. Love & Son has been awarded the export agency for the Marshall and Williams Corp., manufacturers of textile tenter frames. The company will handle this line in connection with other textile finishing machinery, manufacturers of which it already represents.

Mount Hope Machinery Co. has appointed Harry A. MacKnight, formerly with Winsor & Jerauld, as consulting engineer. He will have charge of the installation of Mount Hope automatic weft straighteners. He and J. D. Robertson, president of Mount Hope Machinery Co., have been separately connected with the development of weft straightening since the early thirties, at which time they both worked on the first automatic weft straightener ever built.

National Drying Machinery Co., Philadelphia, Pa., recently made the following management appointments: Norman Kern, Jr., plant manager; David A. Colker, sales manager; F. W. Warrington, Southern representative in Charlotte, N. C.; and Ralph C. Parkes, continuing active head of the "National" organization, who will devote more of his time to engineering and development problems.

National Technical Laboratories, manufacturers of Beckman Instruments, recently established a New York service department. The new metropolitan department is equipped with necessary parts and test instruments for servicing Beckman Instruments and accessory equipment.

FRANK M. GOODMAN, formerly with Skilsaw, Inc., has been appointed sales-promotion manager of the industrial division of Lincoln Engineering Co., St. Louis. He will promote lubricating equipment and centralized lubricating systems in collaboration with industrial distributors.

Reeves Pulley Co. has named named J. S. Michie, formerly of Diebold, Inc., works manager of the firm. He will be in charge of all plant manufacturing, production planning and time standards and methods. He succeeds H. E. Brooks, who has recently retired after 29 years of service.

Singer Mfg. Co. has elected Milton C. Lightner president, succeeding the late Sir Douglas Alexander. He was also elected president of the Singer Sewing Machine Co., principal subsidiary of the Singer Mfg. Co. He was previously vice president and a director of both companies. Max L. Waterman was elected a vice president of the Singer Mfg. Co. at the same time.

Stowe - Woodward, Inc., Newton Upper Falls, Mass., recently dedicated its new $500,000 Ward plant. The addition of new facilities made possible with the opening of this building will increase the production of the firm's rubber-covered rolls and other products for the textile and allied industries. The plant contains a new 42-ft. 3-in. Farrell rubber-roll grinder, the longest and largest of its type in the country.

Synthane Corp., Oaks, Pa., has added Fred C. Nave to its southeastern sales staff as assistant to Clarence Moss, sales representative in that area. A

REDUCE POWER COSTS

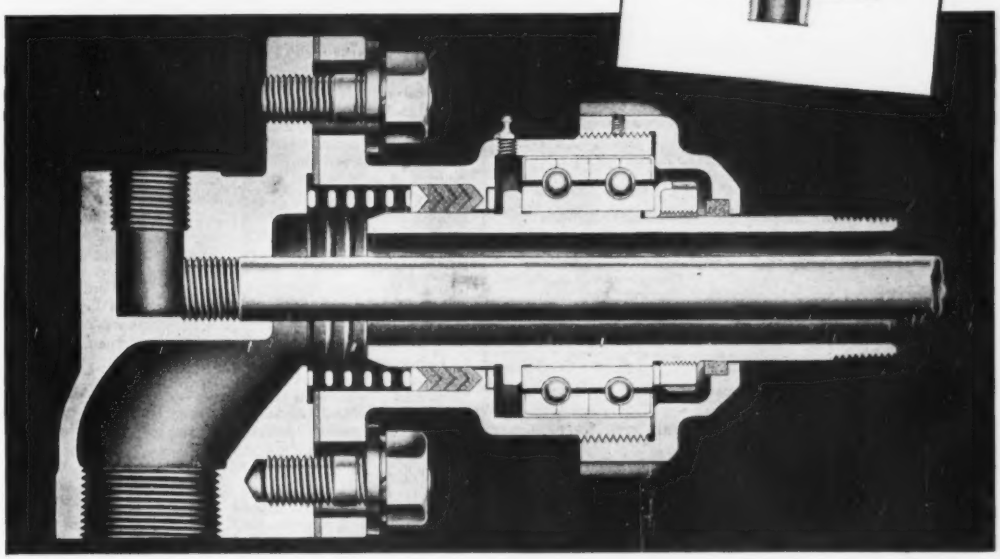
WITH THE

BARCO

REVOLVING JOINT

BARCO BALL FLANGE

Cross-section view of Barco Ball Flange for use on threaded and flanged rolls and for correcting roll misalignment. Sleeve can rotate concentric even though threads on roll are tapped off center.



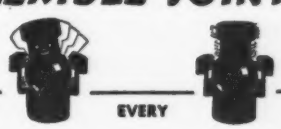
Designed especially for the Textile Industry

Barco has a lower turning torque, which reduces power costs. This revolving joint is made for all types of rotating applications such as slashers, calenders, sanforizers, and dry cans. In textile weaving and finishing plants, as well as bleacheries, Barco minimizes steam leaks, cuts maintenance worries to rockbottom levels.

For more particulars about this and other Barco Flexible Joints for the textile industry, write Barco Manufacturing Company, 1834 Winnemac Avenue, Chicago 40, Illinois. In Canada: The Holden Co., Ltd., Montreal, Canada.

BARCO FLEXIBLE JOINTS

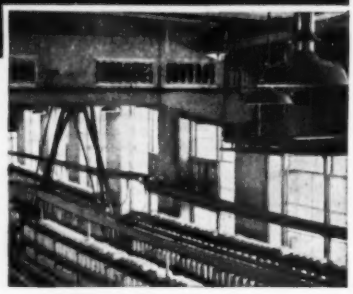
FREE ENTERPRISE—THE CORNERSTONE OF AMERICAN PROSPERITY



Not just a swivel joint ...but a combination of a swivel and ball joint with rotary motion and responsive movement through every angle.

"MOVE IN EVERY DIRECTION"

Parks AUTOMATIC AIRCHANGER



Maintains desired relative humidity regardless of outdoor weather.

Concentration of power in modern textile mills calls for more humidification. This, and heat factors involved, in turn call for predetermined, mechanical ventilation, varying from season to season, from hour to hour.

The Parks Automatic Airchanger admits just enough outdoor air, automatically, to keep humidifiers at full capacity during hot dry weather, restricts outdoor air in cold weather.

RESULTS: More constant, more uniform humidity at all times; cooler mill.

Parks-Cramer Company

Fitchburg, Mass. PARKS Certified Climate Charlotte, N. C.

NEWS ABOUT *Suppliers*

veteran of 22 years in the textile field, Mr. Nave will work out of Elizabethton, Tenn.

Westinghouse Electric Corp. has named Vice. Pres. John K. Hodnette its new general manager of industrial products. Three other executives have been appointed to key positions in the sale and engineering of industrial products: Tomlinson Fort, manager, apparatus sales department; William W. Sproul, sales manager, industrial products; and Royal C. Bergvall, engineering manager, industrial products. Increase of fluorescent-lamp life expectancy was announced as lengthened to 7,500 hr.

JOHN A. CARTER has been elected president of Oakite Products, Inc., succeeding D. C. Ball, founder and president of the firm since its formation. Mr. Carter has been with the organization for 34 years, and had been general manager since

Chemical Suppliers

American Cyanamid Co. has renewed 15 scholarships for the academic year 1949-50, chiefly in the fields of chemistry and chemical engineering. Generally, these scholarships provide $1,500 and are awarded to graduate students in their last year of pre-doctoral study. Recipients of post-doctoral scholarships receive $3,000. Scholarships have been established at Brown, M.I.T., Columbia, Princeton, Virginia, Penn State, Cornell, Illinois, Notre Dame, Michigan, Wisconsin, Minnesota, Colorado, and Purdue.

Commonwealth Engineering Co. of Ohio, Dayton, has developed a continuous chemical-transfer method, made on the Kol dispersion process, which eliminates grinding in the preparation of pigmented pastes. A total of six U. S. patents have so far been issued as a result of this work, the annual report reveals.

Celanese Corp. of America has placed upon the U. S. Patent Office Register of Patents Available for Licensing approximately 2,400 patents covering methods and processes for the manufacture of textiles, plastics, and chemicals. By this action the corporation is making it possible for applicants to take out licenses on reasonable terms under substantially all of the patents owned by the corporation.

Cochrane Corp., of Philadelphia, has appointed Frederick H. Mason Co., Detroit, its district sales and engineering representative for the Cochrane C-B condensate drainage-control system. Philip J. Berry, Robert M. Weaver, and S. Sutterfield are the individuals covering this territory.

E. I. du Pont de Nemours & Co., Inc., has named Robert L. Richards general manager of the rayon department, succeeding Benjamin M. May, retired. Five other changes have been made in the rayon-sales organization. V. Ward Smith will concentrate on Cordura high-tenacity rayon sales and all indirect-sales activities in the division. Ford B. Draper is the new assistant director of sales who is in charge of textile rayon and staple. W. Samuel Carpenter, III, has been made assistant manager of Cordura rayon sales. Dr. W. W. Owen has been transferred from technical service to Cordura sales as special representative. V. S. Van Scoy, assistant manager of the technical-service section, has become manager of new-sales-development section. Other changes in the Du Pont organization include the promotion of Ambrose W. Stadt from manager of nylon technical service to manager of market-research section of the trade-analysis division. George H. Braniff succeeds him in his former position. Dr. Joseph E. Waltz has been made a nylon-research supervisor. Leland M. Jones will be resident manager of the Orlon acrylic-fiber plant under construction at Camden, S. C. Operations at Camden are scheduled to start the latter part of 1950.

Textile Recorder
TEXTILE MACHINERY
Exhibition
BELLE VUE. MANCHESTER OCT. 12-22 1949

Come to Manchester, England in October!

The Exhibition will be attended by textile machinery buyers and Mill executives from some fifty countries. It will eclipse in magnitude and variety of exhibits all previous Textile Machinery Exhibitions. As a textile man we say positively you must not miss this mammoth display. Here are just a few of the numerous interesting shows that are well worth your inspection.

Latest Type Direct Sliver to Yarn Spinning Frame.
Patent Sprung Devices for increasing production and improving quality.
Fully Automatic travelling Spindle Pirn & Cone Winders.
New High Draft Speed Frames.
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Glass Tape Looms.
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Pinning Machines.
Novel Sample Weaving Machines.
Synthetic Resin Finishing Machine.

There are special travel facilities and price concessions in operation from all the various countries, whilst special hotel or other accommodation in Manchester and neighbourhood can be arranged for you by the Exhibition Authorities.

Leading Textile Machinery Makers from Seven Countries

For all information write to:—
DR. W. HUBBALL, Managing Director,
Textile Recorder Machinery And Accessories Exhibitions, Ltd.,
Old Colony House, South King Street,
Manchester 2, England.

NEWS ABOUT *Suppliers* (Continued)

Interchemical Corp. is constructing a plant in Hawthorne, N. J., to house the operations of its textile-colors division. Plans call for a group of interconnected buildings, mostly of one-story construction; an office and laboratory building; and units for manufacture of pigment colors for printing textiles, and dyes for dyeing and printing acetate rayon, rayon, cotton, and other materials. Operations of the company, presently conducted at Fair Lawn and at two locations in Paterson, will be transferred, for the most part, to the new location late this year and early in 1950.

Koppers Chemical Co. has appointed George W. Hooker chief engineer of the chemical division. Harold D. Cooper has been named Eastern-district sales manager of Koppers Chemical Div. Ellsworth E. Kimmel is the new assistant to the technical advisor in the chemical division.

Meredith, Simmons & Co. Ltd. has changed its name to **National Adhesives (Canada) Ltd.** Having been affiliated with National Starch Products, Inc., and its predecessor company since the original incorporation in 1920, it is felt that this change will make the association as close in name as it is in actual operation.

Monsanto Chemical Co., Merrimac Div., has established headquarters of its textile chemical department at division executive offices and plant in Everett, Mass. Branch sales offices of the textile chemical department in New York, Charlotte, N. C., and other cities are not affected by the change.

Rohm & Haas Co., chemicals manufacturers, has reduced by 2¢ per lb. the prices of its textile reducing and stripping agents in drum quantities and over. Materials affected by the reduction include concentrated sodium hydrosulphite, sodium sulphoxylate formaldehyde, and basic zinc sulphoxylate formaldehyde; as well as zinc hydrosulphite, which is reduced 1½¢ per lb.

Other Services

Air Reduction Sales Co. has appointed Richard N. Chapin general purchasing agent. Mr. Chapin will be located in company general offices in New York. He succeeds Walter R. Clark, recently resigned. S. S. Stewart has been promoted to purchasing agent of the manufacturing division. He will have his headquarters in Jersey City, N. J. The company has opened a new acetylene plant in Acton, Massachusetts.

ROBERT B. SEMPLE, former director of general development at Monsanto Chemical Co., becomes president and director of Wyandotte Chemicals Corp. on Sept. 1. He succeeds E. M. Ford, who becomes chairman of the board on the same date.

Barrow-Agee Laboratories, Inc., has opened a cotton fiber-testing laboratory at Memphis, Tenn. It is called the first complete commercial fiber and cottonseed-products laboratory in the United States. Tests on fiber-length uniformity, breaking strength, and fineness will be featured.

The 22nd Exposition of Chemical Industries will be held in Grand Central Palace, New York, Nov. 28 to Dec. 3, 1949. Exhibits will be composed of raw materials, machinery, and products covering every recognized industrial and commercial application of chemical materials, including textiles.

Skinner & Sherman, Inc., Boston, Mass., one of New England's largest and oldest firm of analytical chemists and bacteriologists, has had its outstanding stock purchased by the **New England Spectrochemical Laboratories** of Ipswich, Mass. While complementing and increasing the scope of the services they offer to industry and the public, the two organizations will remain separate.

FOR YOU WHO NEED MORE DRYING AREA

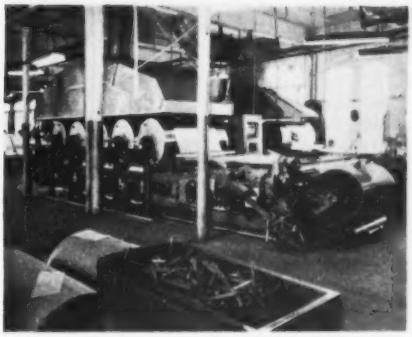

Photo Courtesy Gilt Edge Mills, New Bedford, Mass.

(Shown are 9 cylinder Johnson Sizer in foreground— 7 cylinder in background)

The JOHNSON 9 Cylinder Sizer

—has the quality features that have put Johnson Sizers into the plants of the great majority of the world's most efficient mills.

— • —

There are more Johnson Warp Sizers in use today in leading mills the world over *than there are of all other types of sizers for synthetic warps combined.*

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When you want the best, get it from a specialist.

Charles B. Johnson

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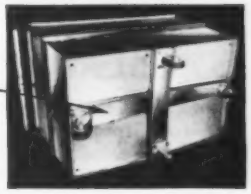
New Stainless Steel WET GOODS TRUCK

- EASY TO CLEAN
- SNAG FREE
- RUGGEDLY BUILT

Stainless steel body, cleans quickly
Stainless steel handles welded to body
Rolled edges prevent snagging of fabrics
"V" BRACE WELDED TO BODY
Truck tilts on center casters for easy maneuvering
Heavy duty, aluminum, ball bearing casters



This is the wet goods truck dyers have always wanted . . . built to stand rough handling for years . . . easy to clean . . . snag free . . . a truck designed to cut your handling costs. Standard width 3 feet, depth 30". Standard lengths 3 ft., 4 ft., 5 ft., 6 ft. Also built in sizes to meet your requirements. Send for Bulletin 7032.

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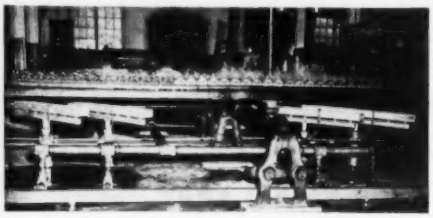
STAINLESS STEEL TEXTILE EQUIPMENT
Dye Boxes, Linings, Cylinders, Dry Cans, Hoods, Tanks



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NEWS ABOUT *Mills*

Dyeing and Finishing Plant News

Laconia French Dyeing & Finishing Corp., Laconia, N. H., is pushing construction of new plant which is expected to be ready for operation sometime in August.

Windsor Print Works Div. of Consolidated Textile Co., North Adams, Mass., was lately inspected by officers and directors of parent company who were reported to have approved operating budget.

Cotton Mill News

Anniston Mfg. Co., Anniston, Ala., has begun construction of building which will house additional office facilities.

William L. Barrell Co., Inc., has been awarded a contract for 50,000 lineal yd. of unbleached army duck, gray cloth, at from 90.73¢ to 94.19¢ per yd. Mt. Vernon-Woodberry Mills, Inc., was awarded a contract for 15,000 linear yd. at 83.5¢ per yd.

Broad Brook Co., Broad Brook, Conn., has asked bids for structural steel framing for new addition to mill. No estimate of cost has been announced. General erection contract will be awarded soon.

Callaway Mills, Manchester unit, Manchester, Ga., has installed new equipment designed to permit burlers and graders to perform more thorough job. Installation of new double burling frames has been completed, and fluorescent lights have been added to cloth-grader frames. Lights have been installed underneath to give better view.

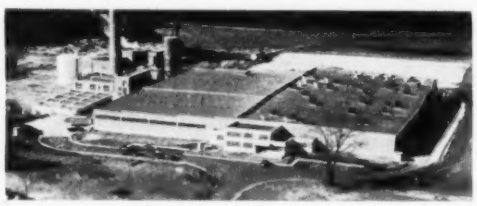
Cannon Mills Co., Kannapolis, N. C., will begin construction this summer on new office building which will more than double existing space. Present office building will comprise central section of new structure with additional new wings which will extend 115 ft. to south and 43 ft. to north.

Caro-Lin-Ian Mills, Inc., High Shoals, N. C., is scheduled to receive 153 new Draper XD looms during June and July. Looms are 46 in. wide; individually driven, equipped with dobby heads and center filling fork stop motion. These looms will be installed on top weave-room floor in space now occupied by 44-in. looms.

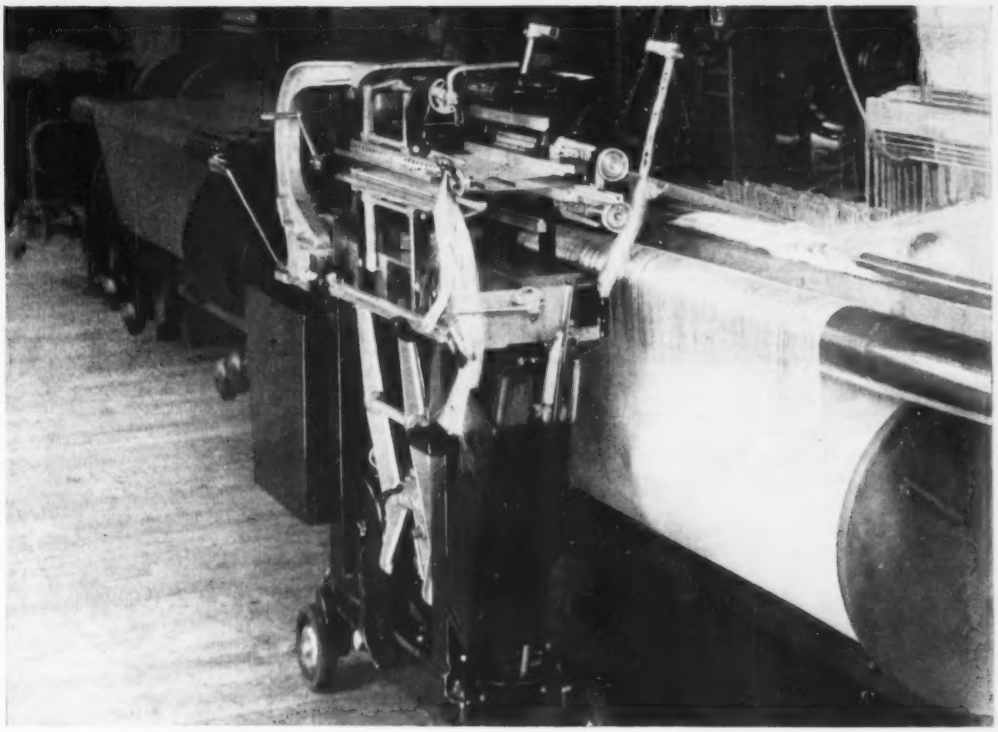
Clark Thread Co., Albany, Ga., has plans for one-story warehouse addition at local mill. Sherley Hudson, Americus, Ga., is architect.

Cora Mills, Kings Mountain, N. C., is having entire lighting system and electrification system revamped at cost of about $130,000. Mill & Marine Electric, Inc., Gastonia, N. C., is in charge of work.

Cross Cotton Mills, Marion, N. C., has installed air conditioning in spinning and winding rooms. System also includes bank of electrostatic air filters said to have efficiency of 85% in cleaning air of smoke and



WAKE FINISHING PLANT, near Raleigh, N. C., newest unit of the Burlington Mills group, is being built up to its rated capacity under the direction of J. L. McIntyre, superintendent. A one-story building of stone, brick, and steel, the plant embodies the latest air-conditioning and ventilating equipment, a modern water plant, and an improved type of boiler room.



BARBER-COLMAN PORTABLE WARP TYING MACHINE SPEEDS REPLENISHMENT OF SYNTHETIC WARPS

BARBER COLMAN

The reduction of loom down-time is an important factor toward successful competition in the textile business. The less a loom is idle, the more goods it can produce; the greater the mill production, the more economical that production becomes. The Barber-Colman Portable Warp Tying Machine has proved its ability, in hundreds of mills, to reduce loom down-time required for replenishment of warp. One model of this machine (Model LS) is specially designed for synthetic yarns — and is also extremely efficient on wool, worsted, mohair, and other difficult yarns. The speed of the machine is illustrated in the example of mill data in the table at the right. The machine works directly back of the loom, as illustrated above, and is so compact that it can be operated in narrow loom alleys. Your Barber-Colman representative is qualified to discuss details of the possibilities for this machine in your mill — get in touch with him at the next opportunity.

DATA FROM A MILL
VISCOSE YARN
Number of ends on Beam — 5,714 160 sley by 68 picks 150/40/1-1/8 Viscose 6 Harness, 4 banks of Drop Wires
Average ends per hour tied — 5,761, on B-C Model LS Portable Warp Tying Machine. This includes preparation, tying-in, and pulling through.

AUTOMATIC SPOOLERS • SUPER-SPEED WARPERS • WARP TYING MACHINES • DRAWING-IN MACHINES

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The following questions were among those asked and answered at the *Operating and Time Study Engineering Clinic* recently held by the Barnes organization.

1. How does Operation Study differ from Time Study? What is the function of Operation Studying?
2. How do the time study methods employed by Barnes Engineers differ from others? Why are they different?
3. How are Time and Operation study data used in connection with the Barnes Labormeter?
4. In the installation and maintenance of the Barnes Standard Cost System, how are operating and time study data used?

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NEWS ABOUT *Mills*

other foreign substances. Company has spent $75,000 for new roof, which includes two inches of cork insulation.

Dan River Mills, Inc., has brought out a wrinkle-resistant finish applicable to lightweight cotton gingham in volume. It was presented to cruise-wear lines in July, and is available generally this month.

Fairmont Mills, Inc., Spartanburg, S. C.—Joseph Sultan & Sons, New York, has bought interest of W. J. Jones, Sr., of Shelby, in this plant. Mr. Jones has been president and principal stockholder since 1946.

Florence Mills, Forest City, N. C., subsidiary of Cone Mills, Greensboro, N. C., is having its spinning equipment completely overhauled.

Greenwood Mills, Harris plant, Greenwood, S. C., has begun construction of 100 dwellings in plant village, Harris plant, rayon weaving mill costing approximately $5,000,000, is expected to be completed in fall.

Groves Thread Co., Inc., Gastonia, N. C., has completed erection of two-story addition and has installed equipment for increased capacity of plant. Project represents investment of approximately $150,000.

Jackson Mills, unit at Wellford, S. C., has installed Lincoln Centro-Matic centralized-lubrication system on Cocker slashers.

J. & J. Spinning Co., plant No. 2, Maiden, N. C., has installed new machinery in some departments. It started up June 18 after a shutdown.

Kendall Co., Kendall Mills Div., has completed its new office building in Charlotte, N. C., at 521 E. Morehead St. It is now occupied by H. K. Hallett, general manager of Kendall Mills Div. and president of Pelzer Mill, and his staff. Departments previously located at Paw Creek are now at Charlotte, with exception of applied research, which has taken over office space left vacant at Paw Creek to consolidate and expand its facilities. Among others, W. E. Prescott, purchasing agent, now has his office at Charlotte. The new $100,000 building was erected by J. A. Jones Construction Co., Charlotte.

Laurel Textiles, Inc., Laurel, Miss., was damaged by tornado recently. Feeder line from main mill to opening room was blown down and about 75 window panes in mill were broken.

Laurens Mills, Inc., Laurens, S. C., has work going forward rapidly on construction of five-story addition, which will provide for considerable increase in present output.

McLeod Narrow Fabrics Corp., Chesterfield, S. C., will begin operation of narrow-fabric plant in near future; J. F. McLeod is owner and expects to double production when 12 looms are added. Plant will manufacture electrical insulation tape.

Moore Fabric Co., Pawtucket, R. I., has completed roof on new addition to weaving plant. Plans for plant were made by Herbert R. Hunt, Providence architect. Henry M. Soule Co., Pawtucket, has general contract for one-story brick and steel addition and has awarded sub-contracts as follows: steel, Tower Iron Works, 50 Borden St.; roofing-sheet metal, Farber Co., 47 Division St.; glazing, Superior Glass Co., Inc., 56 Charles St.; electric installation and heating by owner.

Morgan Cotton Mills, Inc., Laurel Hill, N. C., has closed bids for addition to Phillips Mill buildings. No estimate of cost has been announced. Matthews & Butler, Laurinburg, N. C., are architects.

Newberry Textile Mills, Newberry, S. C., has been acquired by Newberry Mills, Inc., of which Sarkis Diarbekirian is president. James E. Britt continues as general manager and assistant treasurer, and George Sessions remains as superintendent. At the moment, the mill is shut down.

Opp Cotton Mills and **Micolas Cotton Mills, Inc.,** Opp, Ala., have begun construction of conditioning laboratory for testing bag materials. Estimated cost is $25,000.

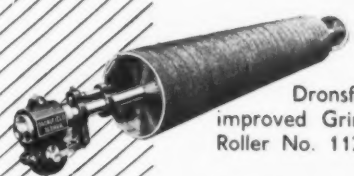
Pepperell Mfg. Co., Opelika, Ala., has opened new cafeteria for operatives. Air conditioned and modernly equipped, it has 48 tables and 225 chairs.

CARD GRINDING WITH ABSOLUTE ACCURACY

DRONSFIELD'S PATENT MOTOR-DRIVEN FLAT GRINDING MACHINE No. 207.

Designed for grinding revolving flats—four simultaneously—dismounted from the cards. Absolute precision in setting is the aim.

Dronsfield's Patent - Traverse Wheel Grinder, No. 120.



Dronsfield's improved Grinding Roller No. 112.

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KELLEY RECLAIMERS

...Profit AS WELL AS *Heat* RECLAIMERS

If you are not making an attempt to reclaim heat in the spent dye liquor, for example, or are doing it with inadequate or antiquated equipment, it may pay you to get in touch with our engineering department.

It's purely a matter of economics . . . of sitting down with one of our representatives and doing a little figuring.

It would not be difficult to determine the reclaimable heat . . . how much it would cost to reclaim it . . . and how much saving there would be by installing the proper type and size Kelley Reclaimer, pit or closed type.

It is well to keep in mind that often it is "profit" . . . perhaps the profit . . . that can be reclaimed along with the heat units.

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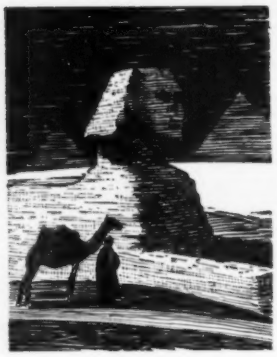

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These new pocket-size precision instruments with dampening device enable you, your workers and overseers to detect faulty tensions that cause tight and loose ends. They are used:

IN WARPING — where uneven tension may cause end breaks or adhesion of ends during weaving.

IN WINDING — to adjust swifts uniformly.

IN QUILLING—to prevent hard and soft quills.

***The new* SIPP-EASTWOOD TENSOMETER** gives a steady reading without fluctuation in all uses. It fits handily into your pocket. Knurled case prevents the Tensometer from slipping out of your hand accidently. Soon pays for itself in the savings it effects.

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SIPP-EASTWOOD CORPORATION

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NEWS ABOUT *Mills*

Pilot Mill Co., Raleigh, N. C., has completed installation of Morrison Machine Co. unit for bleaching and giving Sanforized finish.

Pomona Mfg. Co., Greensboro, N. C., is for sale to "anyone who will offer the right price," according to Robert Orton, treasurer of Beechwood Sales Corp., parent company. The mill has been closed for several weeks.

Robinson Yarn Mills, Inc., Gastonia, N. C., has let contract to Young Construction Co., Rock Hill, S. C., for one-story mill addition. J. N. Pease & Co., Charlotte, N. C., is architect and engineer.

Spartan Mills, Spartanburg, S. C., has awarded contract to Bahnson Co., Winston-Salem, N. C., for installation of air-change and humidity-control central system in lower weave room of No. 1 plant. Installation is part of $500,000 program for air systems in both No. 1 and No. 2 mills. Company is also installing new stainless-steel kettles in slasher room. Kettles will enable mill to use more than one type of sizing formula at a time.

Springs Cotton Mills, Lancaster, S. C., has converted 210,000 warp spindles to large-package paper-tube spinning with Regnery aluminum adapters. Installations are in six of company's mills in Lancaster, Fort Mill, Chester, and Kershaw. Additional 50,000 spindles are in process of being converted.

J. P. Stevens & Co., Inc., New York, N. Y., has closed bids for one-story mill at Kollock, S. C., which will be equipped as finishing plant, and will include filter plant and pumping station. Company is also constructing cotton-testing laboratory at Greenville, S. C., in Dunean village. Laboratory will cost about $30,000. Structure will be 72x 40 ft. brick building. Daniel Construction Co., Greenville, is head of construction. Gordon McCabe, formerly cotton buyer for Stevens Mills, will be in charge of laboratory.

West Point Mfg. Co. and **Lanett Bleachery & Dye Works** have cooperated in the erection of the new George H. Lanier Memorial Hospital being built at Langdale, Ala., by the Chattahoochee Valley Hospital Society. Present plans call for 83 beds with provision for an extension to 150 beds, to service about 40,000 residents in the valley. The cost will be close to $2,000,000.

United States Rubber Co. is reported to be laying off some of its employees at Shelbyville, Tenn. Increased demand for rayon tire cord at the expense of cotton cord is making the move necessary.

Wool Mill News

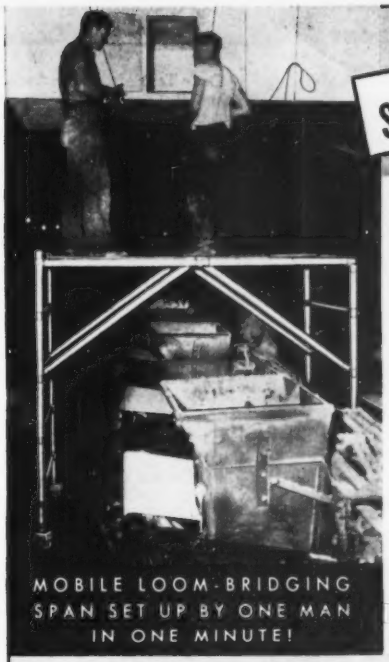
Alexander Smith & Sons Carpet Co., Bigelow-Sanford Carpet Co., A. & M. Karagheusian Carpet Co., and **Mohawk Carpet Co.** have extended their current wage contract with the CIO to June 4, 1950. Workers covered number 25,000.

American Woolen Co. was awarded contract for 4,000 yd. of 10½-oz. shrink-resistant shirting flannel by the N. Y. Quartermaster purchasing office. It was one of 17 lots awarded among 17 producers foreseeing crystallization of technology on the new-type flannel and to pave the way for future procurements. Other mills working with the shrink-resistant wool shirting flannel are **Ames Textile Corp.; Bachmann Uxbridge Worsted Corp.; Guerin Mills, Inc.; Livingston Worsted Mills, Inc.; Lorraine Mfg. Co.; Merion Worsted Mills; Metcalf Bros. & Co.; Methuen International Mills; Pacific Mills; Shamokin Woolen Mills, Inc.; Sheppard Mills, Inc.; Stillwater Worsted Mills; J. Walther Fabrics, Inc.; William Whitman Co., Inc.; Windsor Mfg. Co.;** and **Yorkshire Worsted Mills.**

Cocheco Woolen Mfg. Co., East Rochester, N. H., resumed operations June 13. The mill was shut down Feb. 18. Francis E. Splaine, agent, said that another shift will be added when orders warrant it.

Creston Woolen Mills Corp., North Kingston, R. I., has been chartered with capital of 600 shares of stock no par value, to operate mill. A. D. Strongeli, 20 Kenwood St., Providence, R. I., is incorporator and representative.

Forstmann Woolen Co., Passaic, N. J., has plans for addition to mill at Garfield, N. J.



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SAVE on overhead maintenance with

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UP-RIGHT SCAFFOLDS

Users actually report man-hour savings on even single jobs more than pay for "Up-Right" Scaffolds! Can be assembled and rolled into position anywhere in a weave room by *only one man!* Speed up painting, cleaning, relamping and overhead maintenance on walls, ceilings, machinery, piping, ventilating and heating installations. Adjustable in height from 6½ ft. to 8½ ft. Designed to roll down aisles with sufficient clearance for variations in loom sizes. Stronger than structural steel yet one third the weight. No wrenches, wing nuts, bolts, loose parts.

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Factories: Berkeley, Calif. and Teterboro, N. J. • *Sales Offices in All Principal Cities*

CUT OPERATING COSTS!
ASSURE CONTINUOUS PRODUCTION!
with MOUNT HOPE CLOTH OPENING EQUIPMENT

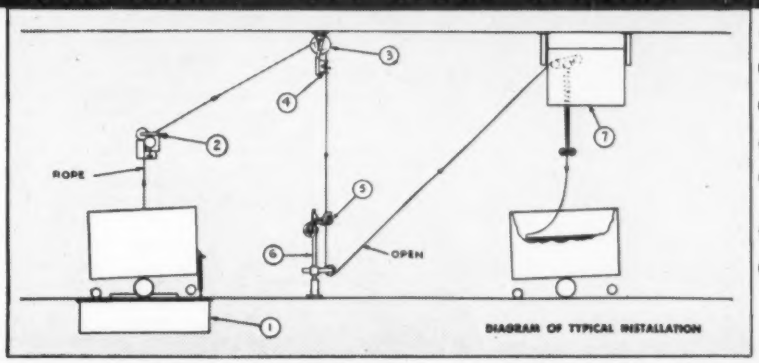


DIAGRAM OF TYPICAL INSTALLATION

1. Turntable Detwister
2. Tension Squeezer
3. Overhead Sheave
4. Detwister Switch
5. Swing Guider and Opener
6. Guider Stands
7. Plaiter

Draw Rolls
Stainless Steel Pot Eyes

YOU GET INCREASED PRODUCTION with MOUNT HOPE INSTALLATIONS because:

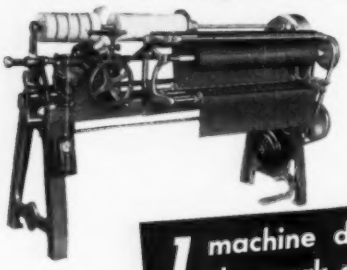
1. **MORE WORK HOURS** — no stopping of machines to remove twist.
2. **FULLY AUTOMATIC OPERATIONS** — no hand labor — opens cloth from the rope regardless of amount of twist.
3. **MAXIMUM FABRIC PROTECTION** — no sharp edges to cut cloth, cannot crease in next machine in line.
4. **MINIMUM MAINTENANCE** — no rapidly revolving parts.
5. **QUIET OPERATION** — no beating action.

For full information, including prices, write today for Bulletin SG-COL — no obligations, of course!

MOUNT HOPE MACHINERY CO., Taunton, Mass., U. S. A.

Representatives — Parkman Collins Company, Boston — for Maine • Ingalls Engineering Company, Providence — for N. H., Mass., R. I., and Conn. • John H. Andresen, Inc., Paterson — for Southeastern N. Y., N. J., and Pa. • A. B. Julin, Watertown, New York — for Northern and Western N. Y. • Slaughter Machinery Company, Charlotte — for the South • S. S. Wilson, 1737 Howard St., Chicago — for Mid-West • Sidney Springer, Los Angeles — for California • W. J. Westaway, Ltd., Hamilton and Montreal — for Canada.

UTICA Combination Winding and Cutting Machine



1 machine does the work of 2

THIS fast-producer has all the advantages of two machines, but uses the floor space of just one. Cuts light, medium, or heavy weight, both straight and bias fabrics. Cutter and Winder can be run at the same time. Rigidly constructed for long, trouble-free operation. Has measuring scale for cutting accurate rolls. It's safe—knife, grinding wheel, all gears and sprockets are well-guarded. Equipped with Veeder Root yardage counter. Made in 40, 45, and 58 inch width machines. Make your own bindings—as you need them—from the same material as your product—at lower cost. Write today.

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Builders of Textile Machines Since 1903

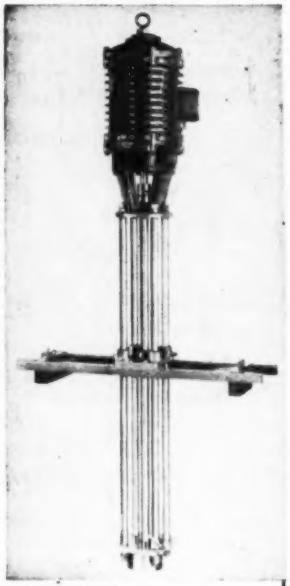
EPPENBACH HOMO-MIXER

A Mixer for Solving Your Processing Problems!

This mixer is extensively used for the processing of textile detergents and finishing compounds, color mixing and incorporating of pigments.

WHY?

The Homo-Mixer reduces particle size, increases total surface area, shortens batch cycles. Emulsifier and disperser. Easily sterilized and cleaned. Mixes in verticle planes. Prevents stratification and dead spots. Minimizes surface boil. Available in laboratory, pilot plant, and production sizes. Can be furnished with or without any type of tanks or kettles, including vacuum or air tight installations.



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We also manufacture Colloid Mills, Paddle and Agi-Mixers, and all types of Alloy metal kettles and tanks.

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45-10 Vernon Blvd. Long Island City, N. Y.

NEWS ABOUT *Mills*

Contract has been let for structural steel framing and general erection contract will be awarded soon. Stone & Webster Engineering Corp., Boston, Mass., is engineer.

Heran Fabrics Co., Woonsocket, R. I., has been chartered with incorporators consisting of Sidney Silverstein, Betty M. Murray, Muriel T. Beaudet, Woonsocket, for purpose of manufacturing, processing, dealing in wools, yarns, silks, etc.

International Felt Co., Emmaus, Pa., has completed erection of new one-story mill, and will equip at once for capacity of about 75 tons of felt daily. Plant totals about 75,000 sq. ft. floor space.

James Lees and Sons Co. has opened a new showroom and service branch in Atlanta, Ga. William H. Goulder, Southern division manager, has his office in the building on Bishop St., while William Lloyd is in charge of the warehouse operation.

Millbury Woolen Co., Millbury, Mass.—Possibility of reopening this plant is being explored by local bankers, businessmen, and mill officials. Mill has been purchased by Michael J. Fitzgerald, of Worcester, Mass., for $190,000. Normally, plant employs 300.

Mohawk Carpet Mills is assisting in providing a $1,350 scholarship each year to an outstanding New York State high school graduate. The two-year textile technology course will be given at the N. Y. State Institute of Applied Arts and Sciences in Albany.

Wanskuck Co., Providence, R. I., has begun construction of one-story, 91x106-ft. addition to mill. H. H. Fales Co., 10 Weybosset St., Providence, is in charge of construction and engineering work.

Synthetic Mills News

Bluefield Ribbons, Bluefield, W. Va., branch plant of South Boston Weaving Corp., a division of Burlington Mills Corp., has ceased operations at its mill at Hale Culvert. Consolidation has been made with the plant at White Sulphur Springs, W. Va.

Doric Textile Mills, Ltd., St. Johns, P. Q., has begun construction of plant which will provide facilities for spinning, weaving, dyeing, finishing, and printing of rayon filament goods, rayon staple-fiber goods, both viscose and acetate, and Egyptian cotton. Building will be one-story, "L" shaped, 250x130 ft. Designing engineers are McPherson & Co., Greenville, S. C. Joseph M. Besso, New York, is owner.

Firestone Textiles, Inc., New Bedford, Mass., will gradually change over from making cotton tire fabric to processing of rayon and nylon tire cord.

High Point Weaving Co., High Point, N. C., division of Burlington Mills Corp., plans improvements to mill which will cost around $175,000. Additional equipment will be installed.

Frank Ix and Sons, Inc., Charlottesville, Va., plant recently won a Marine Corps citation for the development of an improved nylon parachute cloth. The mill is now at work on a "rip-stop" fabric, which prevents a tear or rip from continuing more than a quarter of an inch in any direction.

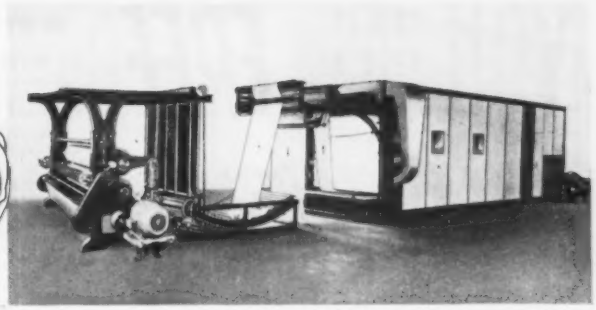
Penn-Rayon Corp., fully-owned subsidiary of Bloomsburg Mills, Inc., Bloomsburg, Pa., on July 1 will begin distribution of new gray-fabric production resulting from expansion program of Bloomsburg. Included in expansion are added facilities to plants at Bloomsburg and Lock Haven, Pa., and new Fernbrook Park Mill at Dallas, Pa.

Reeves Brothers, Inc., has developed a new plastic fabric from woven monofilaments of Bakelite polyethylene, completely odorless and remaining pliable even in extreme cold. It is reported non-toxic and resistant to moisture, acids, stains, and vermin, and is so light in weight that it floats in water. It has been under development for more than three years.

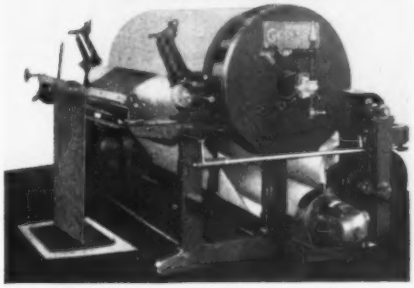
Riverside Silk Mills, Galt, Ontario, plans to install new machinery sometime this year. Installation of this machinery is designed to increase production.

GESSNER CONTINUOUS Shrinking Outfit

. . . a finishing machine for many purposes



Gessner Continuous Shrinking Outfit



Gessner New Semi-Decating Machine

Combine water-proofing of your fabrics, or moth proofing, with shrinking in one operation. Whatever proofing effect you desire, including crush proofing, may be obtained on Gessner's New Continuous Shrinking Outfit. Automatic controls are available to make every operation in the entire shrinking process, exact, complete and reliable.

Following these operations, Gessner's Open Decating Machine restores the fabric to its original finish. May we furnish you with detailed particulars.

DAVID GESSNER CO.

Worcester, Massachusetts

IMPROVED CLOTH FINISHING MACHINERY

RUMI • CARDS • COMBERS • LOOMS

- CARDS FOR COTTON AND RAYON STAPLE.
- COMBING MACHINES FOR CONTINENTAL WORSTED SYSTEM.
- LOOMS FOR COTTON, RAYON, SILK.

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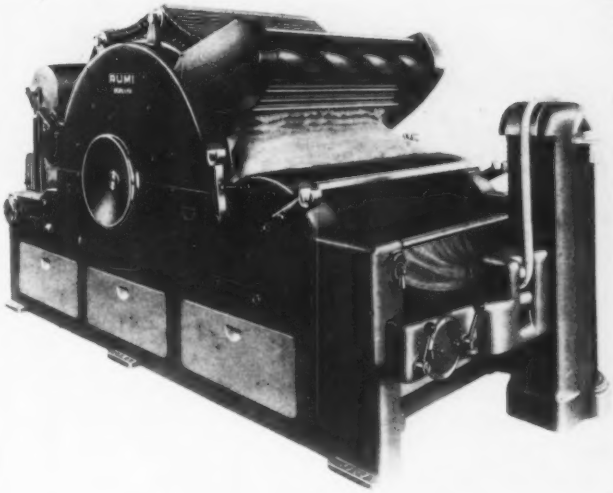
COTTON CARDS

Note the streamlined design, with all controls grouped at the front end. Shafts run in ball bearings. Easy and convenient adjustment of grids and screens. Send for complete information. Early delivery.



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FAST, THOROUGH, EASY-TO-USE—DOES ALL FLOOR MAINTENANCE WORK

A new, scientifically designed all-purpose floor machine which does better work, is correctly balanced for rapid performance, is easily controlled and handled, and is adjustable to operator. Quickly disassembled for storage and transport.

Write today for details of our free trial offer which enables you to try this better floor machine on your own work under your own conditions.

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FREE TRIAL OFFER

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5124 Ravenswood Avenue • Chicago 40, Illinois

BUY U.S. SECURITY BONDS NOW!

NEWS ABOUT *Mills* (Continued)

Robbins Cloth Mills, Inc., Aberdeen, N. C., which is owned by Colonial Mills Corp., has had Carrier Corp., Syracuse, N. Y., install constant-temperature air-conditioning system, which gives varying ranges of relative humidity best suited to demands of rayon weaving and subsequent processing. New mill is modern structure, one-story, designed for long straight production lines, with wing for offices. It will be devoted entirely to manufacture of spun-rayon fabrics.

Textron, Inc., East Greenwich, R. I., has been granted permit to build brick addition to boiler room. Estimated cost is $3,800.

Verney Corp., Boston, Mass., has acquired capital stock of newly incorporated Joseph Berlinger Co., New York. Joseph F. Berlinger has been elected president of latter corporation and business will be conducted as formerly.

Knitting Mill News

Academy Corp., Monroe, N. C., has been incorporated to manufacture hosiery with authorized capital of $100,000. Principals are O. F. Semetana, of Monroe, and Richard Nordman and Burgess Kenimer, both of Charlotte, N. C.

Appalachian Mills Co., Knoxville, Tenn., is installing new machines costing over $75,000 in line with new emphasis on lightweight underwear production. Operations are expected to begin in near future. Plant was scheduled to begin operations June 1, but was not quite ready to open.

Burlington Mills has started limited operations at its Vance plant, Kernersville, N. C., where half-hose will be produced. Additional knitting, looping, and clipping machinery will be installed.

Carolina Knitcraft Corp., Durham, N. C., has obtained certificate of incorporation from North Carolina secretary of state to operate textile business. Incorporators are James Newsom, A. H. Graham, and Leslie Ford, all of Durham.

Ellis Hosiery Co., Philadelphia, Pa., was awarded contracts at 27.7¢ and 28.2¢ for 1,451,000 pr. of black cotton nylon-reinforced socks by the New York Quartermaster purchasing office, a procurement for the U. S. Army. **Silver Knit Hosiery Mills,** High Point, N. C., contracted for 900,000 pr. at 27.29¢ and 27.79¢, and **Sweetwater Hosiery Mills,** Sweetwater, Tenn., for 480,000 pr. at 24.43¢.

J. T. Flagg Knitting Co., Florence, Ala., has begun construction of one-story brick addition to building.

Holeproof Hosiery Co., Marietta, Ga., expects to have new dye plant completed and in production in near future. Plant will have weekly production of 40,000 doz. pr. of men's socks.

R. L. James & Son Hosiery Mill, Marion, N. C., has doubled production with addition of new knitting machines, loopers, dye machines, and boarding forms.

Kent Knitwear Co., New York, N. Y., has been chartered with capital of 600 shares of stock, no par value, to operate mill for production of knit goods for women. Julius Israel, 450 West End Ave., New York, is principal incorporator.

Knit-Rite Hosiery Co., Owen Sound, Ont., has begun production in new nylon hosiery plant. Machines were transported from Reading, Pa. Leo Lidell, owner, plans to place four more units in operation in near future.

Liberty Hosiery Mills, Gibsonville, N. C., branch of mill with same name at Liberty, N. C., began partial operation June 20, with full operation scheduled for October. Mill was purchased by M. B. Smith in July, 1948, and has since undergone remodeling and improvement. New plant will manufacture 400-needle seamless stockings. Initial production is limited pending completion of dyeing and finishing plant.

Lynn Hosiery Mills, Inc., Mount Holly, N. C., plans one-story addition, which will cost about $50,000. Machinery cost was not announced.

Nebel Knitting Co., Charlotte, N. C., has begun installation of additional 54-gage knitting machines and auxiliary equipment, which will increase total capacity.

Accurate Machine Control starts with an accurate transmission

To solve your speed-control problems

Look to the pioneer in speed control

World-famous *Variable-Speed* TRANSMISSIONS MOTOR PULLEYS

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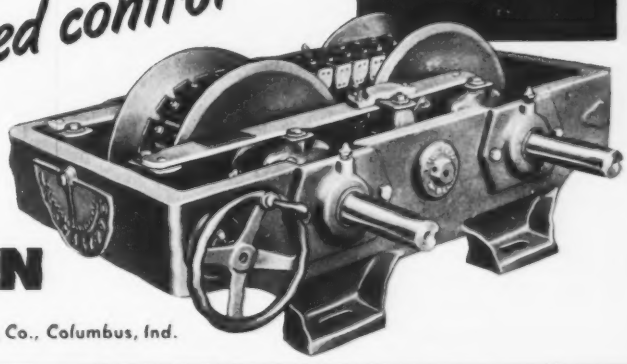
AUTOMATIC CONTROLS
ELECTRIC CONTROLS
REMOTE CONTROLS



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LEWELLEN

Wire, phone or write Lewellen Mfg. Co., Columbus, Ind.

ANNOUNCING A

NEW ALLEN BEAM

THE "G" LINE

FOR ALL MAKES OF WARPERS

3 types:

Cotton (GK), Rayon (GR), Nylon-Acetate (GN)

Important advances in design and construction.
Substantially increased strength.
New features to maintain truest running.

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Representatives in all Textile Localities and all Principal Countries of the World.

LANE CANVAS TRUCKS

STYLE 27

Produced under the same rigid requirements of Quality and Precision for the past fifty years. Today, Lane products are preferred by the Textile industry.

Our Engineers Are At Your Service

W. T. LANE & BROS., Inc.

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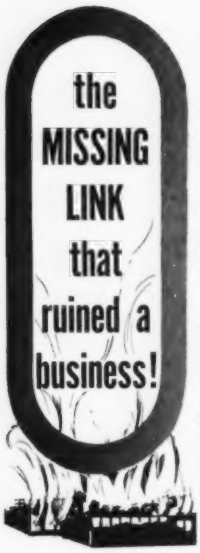

This company was one of the leaders in its industry.

Its very name evoked a sense of quality and established acceptance.

Labor relations were happy. All departments functioned in creative harmony.

It employed a Watchman. It carried Insurance.

But in five hours, the work of a lifetime was reduced to a smoking shambles.

What went wrong?

If you are a management executive, you owe it to the continued security of your own company to get the answer. It may prevent a sudden and tragic occurrence in your own enterprise.

"STORY OF THE MISSING LINK" has been published by DETEX as both a warning and guide to executives who are charged with the responsibility of plant protection. Send for it. It's free.

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OL COP and BOBBIN WINDER

Now operating in over 200 Textile Mills in U. S.
This winder gives you 4 big advantages:

1. Eliminates waste
2. Increased yardage capacity of shuttle package
3. Less winding expense
4. Compactness — space saving

Write today for full information

AMBLER TEXTILE MACHINERY CO.
S.E. COR. BODINE AND YORK STS.
PHILADELPHIA, PA.

NEWS ABOUT Men

Leroy Baines has been promoted to overseer of woolen and worsted finishing at Arms Textile Mfg. Co., Manchester, N. H.

John E. Bassill, former president of North American Rayon Corp. and American Bemberg Corp., has joined American Enka Corp. as a consultant. Upon the retirement next May of O. L. Alexander from the presidency to the chairmanship of the board of American Enka, Mr. Bassill will become president.

L. H. Benfield has been appointed superintendent of Nelson plant of American Yarn & Processing Co., Whitnel, N. C. He was formerly assistant superintendent.

J. P. Black, Jr., of mechanical department of Springsteen plant, Springs Cotton Mills, Chester, S. C., has been promoted to master mechanic there.

George E. Bondurand has become superintendent of Lincolnsfield Mills, Lincoln, Me.

Robert H. Born and **William H. Steuber** have joined the sales organization of Greenwood Mills, Inc.

Joseph Boyd has become overseer of carding at Nashawena Mills, New Bedford, Mass.

Moses H. Bresler, executive vice president, was elected president of The Lamport Co., Inc., at the annual meeting. **Gerson Reichman** is the new executive vice president and treasurer.

James Busher has been appointed superintendent of cloth department at Shawsheen Mills of American Woolen Co., Shawsheen Village, Mass. He was formerly with Lymansville Co., Providence, R. I.

W. G. Casey has resigned as superintendent of Hanover Woolen Mills Co., Hanover, Ill., to go to St. Jerome, N. Q., Canada.

D. Cassell has become overseer of weaving for Ziock Industries, Brownswood, Tex. **W. Lees** has become overseer of spinning.

DR. THOMAS NELSON, dean-emeritus of the School of Textiles, North Carolina State College, author, and one of the nation's pioneer educators in textiles, has retired from his duties after 48 years of service.

A native of Preston, England, Dr. Nelson joined the N. C. State faculty in 1901 and began to develop the college's School of Textiles, which is now the world's largest institution of its kind. He retired as dean of the School of Textiles in September, 1943, but continued to serve on the faculty as professor of designing.

R. W. Faires, who has been superintendent of Maiden, N. C., plant of American Yarn & Processing Co., has been appointed superintendent of Spun Fibers, Inc., unit of company at Whitnel, N. C.

Ezell Gantt, who was formerly with Springs Cotton Mills, at its Fort Mill, S. C., plants has been made superintendent of cloth department of Borden Mills, Kingsport, Tenn.

Gustave Gerstle, director of production at Native Laces & Textiles, Inc., has been elected vice president of two of its affiliated mills: Natona Mills, Dallas, Pa., and Native Lace Works, Hightstown, N. J.

John D. Griffiths has become superintendent of new Fern-

A NEW

SPRAY-APPLICATION TECHNIQUE

for

TEXTILE PROCESS COMPOUNDS

MINOTINTS

Oil-base fugitive tints for all synthetic and natural fibers.
Identification — Lubrication — Conditioning

RAYON OILS		SS BASE OIL
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LYNOL		MEON

BRETON OILS FOR WOOL

Accurate trouble-free application of spraying oils and tints by the new pressure method which eliminates pumps and moving parts. Simplification is progress and ours is backed by 75 years' experience.

INQUIRIES INVITED

BORNE SCRYMSER COMPANY

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ELIZABETH, N. J.

Established 1874
75th Anniversary

Southern Warehouse
CHARLOTTE, N. C.

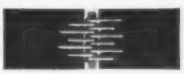
10 TIMES FASTER THAN STITCHING!

SPINDLE TAPE
LACING EQUIPMENT

Lace spindle tapes 10 times faster with Clipper No. 25 Spindle Tape Hooks. Tapes can be prepared in advance so frame is shut down only long enough to place new tape on the pulleys and join ends with connecting pin. Tapes run true—last longer—run smoother—require less tension—VIBRATION IS ELIMINATED

CONDENSER TAPE LACING EQUIPMENT

Lace condenser tapes with Clipper No. 25 Condenser Tape Hooks. Clipper laced tapes, prepared in advance, can be installed in a fraction of the time required for endless tapes. Tape may be purchased in the roll at considerable saving.



CLIPPER BELT LACER COMPANY, GRAND RAPIDS 2, MICHIGAN

Clipper BELT LACING EQUIPMENT

PENICK & FORD, LTD., INCORPORATED

CORN STARCHES, DEXTRINES, GUMS, CORN SUGARS & SYRUPS

NEW YORK, N. Y. - - - - CEDAR RAPIDS, IOWA

SOUTHERN OFFICES: ATLANTA, GA. - - - - SPARTANBURG, S. C.

John:
Penick and Ford's Starches and Gums for sizing Corduroy warps insure dependable weaving and maximum cutting efficiency. Let's try the type they recommend. Jim

Long years of service in leading woolen, cotton, rayon and silk textile mills prove the superiority of Empire Textile Mill Crayons for the marking of roving.

A trial will convince you that EMPIRE is the superior product to fill your most exacting need for this type of marker. Made in 18 clearly distinguishable colors and in large and junior sizes.

Write to Dept. T-5 for FREE chart showing actual colors.

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Use ALL the facilities of the

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28th Street, East of 5th Avenue, N. Y. C.

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PAY ROLL CONTROLS
WORK LOAD STUDIES
COST SYSTEMS
SPECIAL REPORTS
COST REDUCTION SURVEYS

NEWS ABOUT *Men*

(Continued)

WILLIAM H. CARTER, president of William Carter Co., was guest of honor at a luncheon on his 85th birthday recently. A tooled blue leather book containing signatures of 1,525 Carter employees, a rosewood cane with polished rhinoceros-tusk handle and tip, and seven hand-painted neckties were presented to him.

GEORGE B. KIMPTON has been appointed managing director for Canada of The Wool Bureau, Inc. For the past eight years general manager of a group of Canadian mills, he will direct work formerly carried on by the International Wool Secretariat, which was merged with the American Wool Council to form the Wool Bureau.

brook Park plant of Bloomsburg Mills, Wilkes-Barre, Pa.

Phillip A. Gruber, a 1949 graduate of Lowell Textile Institute in textile chemistry, received the first New England Textile Foundation fellowship at Massachusetts Institute of Technology for post-graduate work. He will specialize in textile technology. The fellowship provides a grant of $1,800 for one year to cover tuition and living expenses and is subject to renewal.

Harry Hanks, formerly with Dan River Mills, Danville, Va., has become superintendent of warp preparation department of Borden Mills, Kingsport, Tenn.

T. B. Harrick has been named overseer of sheeting-weaving department of Fieldcrest Mills, Draper, N. C.

Arthur Hart has become superintendent of Luther Mfg. Co., Fall River, Mass., succeeding **R. Molyneaux.**

Harry Hill, former superintendent of weaving at Robbins Cloth Mills, Aberdeen, N. C., has accepted a position with Textron Southern, Inc., as plant superintendent at Belton, S. C.

Martin H. Horchler has resigned as executive vice president of William Whitman Co., Inc. He had been associated with the firm for 32 years.

J. H. Jackson, formerly overseer of card room of Harden Mfg. Co., Mill No. 2, Rock Hill, S. C., has accepted similar position with Bladenboro Mill, No. 3, unit, Bladenboro, S. C.

Frank B. Killduff has become overseer of dyeing and finishing for Bonnie Products, Fall River, Mass.

Dan C. Lippmann has been made vice president and director of merchandising and sales of Goodall Co. He will make his headquarters at the Palm Beach office at 200 Fifth Avenue, New York.

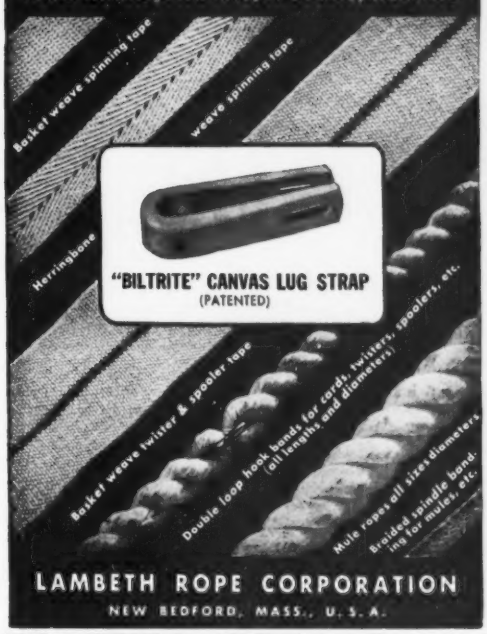
Everett Little has resigned as overseer of finishing for Paragon Worsted Co., Providence, R. I.

Wes Littlefield has succeeded **Homer McGill**, resigned, as superintendent of plant of American Thread Co., Tallapoosa, Ga. Mr. Littlefield has lately been engaged on cost and quality work at the company's Clover, S. C. plant and was previously assistant superintendent of its Bristol, Tenn., plant.

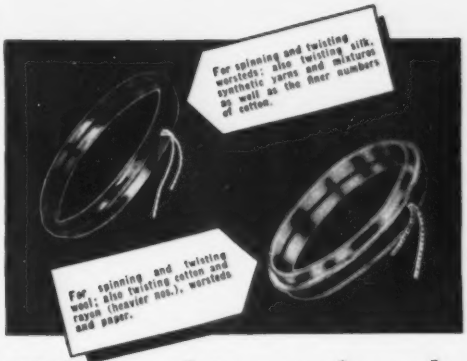
Fred Lloyd, former overseer of piece dyeing at Arlington Mills division of William Whitman Co., Inc., Lawrence, Mass., has assumed new duties as overseer of dyeing at Ames Worsted Co., division of J. P. Stevens & Co., Inc., Southbridge, Mass.

Myron R. Lloyd has resigned his position with Hornwood

LAMBETH PRODUCTS
FOR SPINNING, TWISTING, SPOOLING, WEAVING


Basket weave spinning tape
weave spinning tape
Herringbone
"BILTRITE" CANVAS LUG STRAP
(PATENTED)
Basket weave twister & spooler tape
Double loop hook bands for cards, twisters, spoolers, etc. (all lengths and diameters)
Mule ropes all sizes diameters
Braided spindle bonding for mules, etc.

LAMBETH ROPE CORPORATION
NEW BEDFORD, MASS., U. S. A.


For spinning and twisting worsteds; also twisting silk, synthetic yarns and mixtures as well as the finer numbers of cotton.
For spinning and twisting wool; also twisting cotton and rayon (heavier nos.), worsteds and paper.

High speed is not the only advantage of Eadie Rings

Plenty of DIAMOND FINISH Eadie lubricated rings are used to advantage on machinery which won't stand higher speeds. There are other important gains: improved yarn quality, less bad work, fewer ends down, much cleaner yarn, oil-free floors, much less oiling effort, greatly increased traveler life. Let's discuss it.

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Cotton yarns, single and ply
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Colored yarns and warps
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Two exclusive features Affording Long Life

1. Automatic - bobbin holders equipped with holding wings electrically hardened all the way through.
2. Holding wings held positively in position by skeleton wrapper—no sliding around.

We make holders for ¾" to 2½" bobbin heads, including large-package wood and paper bobbins, also special bobbins. Duplex holders take both automatic and non-automatic bobbins.

Holders for all types of mules, frames, twisters and winders.

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THE OLDEST AND LARGEST
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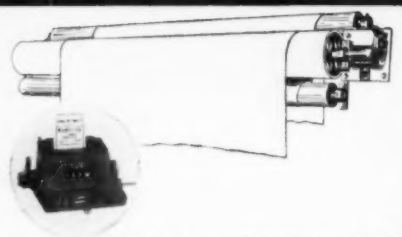
"Standard" HAND CLOTH PERCH



Our New 24" Measuring Cylinder, 80" wide, is equipped with a 5 figure, quick-reset Productimeter, or our New Standard Metergraph — with Printing Attachment — which accurately records and prints yardage — prevents errors — eliminates guess work.

All revolving shafts of the Standard Hand Cloth Perch are mounted in ball bearings. Two hard wood rolls, 3½" diameter by 80" wide, with brackets, are included.

Our Standard Hand Cloth Perches are strongly built, yet simple in construction, to give years of satisfactory service. The Measuring Cylinders, Productimeters and Metergraph Yardage Counters are precision made to assure accurate yardage.

For complete details — write for descriptive folder.

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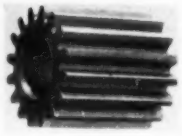
PENNSYLVANIA

LOOM MOTOR PINIONS

HARDENED STEEL IN STOCK



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Supplying the trade for over 20 years
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NEWS ABOUT *Men*

J. B. HARRIS, vice president of Greenwood Mills, Greenwood, S. C., was elected president of the Cotton Manufacturers Assn. of South Carolina. W. A. L. Sibley, Monarch Mills, Union, became vice president; and John K. Cauthen, Columbia, executive vice president.

T. W. KITCHEN, general superintendent of finishing at Dan River Mills, has resigned to become head of textile machinery Southern sales for Rodney Hunt Machine Co. He was formerly with Joseph Bancroft & Sons, and later was superintendent of plant at North Carolina Finishing Co. In his new position, he will sell to mills directly.

Warp Knitting Corp., Wadesboro, N. C., to become overseer of tricot department of Holly-Knit, Inc., plant of American Yarn & Processing Co., Mount Holly, N. C.

James Maxton, former vice president of Jaeger, Inc., now represents in New York the interests of Munro & Co. and Messrs. Euan Douglas of Edinburgh, Scotland, and Messrs. John Burnett & Co. of London, England, fabric manufacturers.

Benjamin M. May, who started as a clerk and became a leader in the development of rayon, nylon, and other synthetic fibers, retired recently as general manager of the Du Pont company rayon department after 46 years of service. He was with the rayon department from its organization in 1936. **Robert L. Richards,** former assistant general manager, succeeds him.

W. E. Morton, for last 23 years superintendent of Cannon Mills plant at York, S. C., retired July 1. Former mayor of York, he had been connected with mill since 1918. **Reid Williams,** formerly night superintendent, has been promoted to superintendent to succeed Mr. Morton.

John Nadorosick has become overseer of carding for Hayward Woolen Co., East Douglas, Mass., succeeding **J. T. McElreath,** who has been promoted to assistant superintendent.

William F. Neumann, with Mohawk Carpet Mills for 11 years and recent district manager at High Point, N. C., has been made district manager of the Mohawk Southern territory, with headquarters at Dallas, Texas. **Edward Web** replaces him at High Point.

W. Reynolds is now associated with Hartley Woolen Mills, Ontario, Canada, as finishing overseer. Mr. Reynolds was formerly with Charlestown Woolen Co., Keene, N. H.

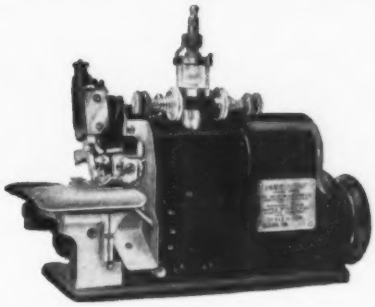
Harold Richardson has become assistant superintendent at Merrimack Woolen Mills, Dracut, Mass.

Harold Rischer has been promoted to overseer of finishing at Excelsior Mills, Union, S. C., succeeding **Joseph Dolan,** resigned.

E. W. Saunders, who has been superintendent of knitting at Wiscassett Mills Co., Albermarle, N. C., has been promoted to general superintendent.

Arthur L. Schrempp has been appointed manager and John V. Brunza has been appointed superintendent of the Kingston, Pa., mill of The Duplan Corp.

Kenneth Seward has been promoted to director of fabric development of Textron, Inc., New York, N. Y. He was previously assistant director.



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OVEREDGING, OVERSEAMING AND HEMMING MACHINES

For Use on Knitted and Woven Wear of all Kinds

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Obtain Maximum Quality Production by Using a Machine Suitably Arranged for Your Work—Our Distributors or Our Direct Representatives Are on Call to Advise You on Suitable Machine Arrangements for Various Results and Proper Care and Operation of Machine.

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Specify
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For Knitting or Weaving

*AMERICAN DURENE**

Highest Quality Mercerized Yarns

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Dye-resistant and boil-proof, permanent, inexpensive, quick and easy to use.

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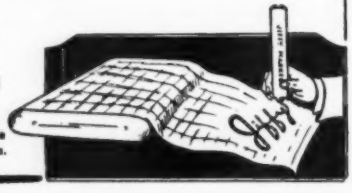


NEWS ABOUT *Men* (Continued)

S. A. Simon, Chicopee Mfg. Co., is chairman of the sectional advisory research committee of the AATCC, West New England section. **W. P. Utermohlen, Jr.,** of the Institute of Textile Technology, has accepted appointment on the cotton and synthetic fibers group of the Detergency Research Committee of the Society.

D. D. Smiley, former assistant superintendent of Salisbury Cotton Mills, Salisbury, N. C., has been promoted to superintendent, succeeding **B. M. Bowen,** retired.

Charles N. Smith has become overseer of carding and spinning for New York Mills Div. of A. D. Juilliard & Co., New York Mills, N. Y.

John A. Spooner, former vice president of Textron, Inc., has succeeded **Kenneth Collins** as director of advertising and public relations for Burlington Mills Corp., New York.

Aaron L. Taylor, former superintendent of Gaffney Mfg. Co., Gaffney, S. C., has become manager of Union-Buffalo Mills, with plants at Union, S. C., and Buffalo, S. C.

Charles W. Taylor has been promoted to general superintendent at Hampton Co., Easthampton, Mass., succeeding **I. N. Stronach.**

Dr. James L. Taylor, professor of textile chemistry at Georgia Tech, was given the annual award of the Sigma Xi Club to the faculty member selected as having done the best job in research during the school year. He was cited for his excellent work with ramie fiber.

Albert Therrien has become night overseer of carding for Wilson Bros., Troy, N. Y.

Albert Thompson has become assistant superintendent of worsted-top manufacturing at Botany Mills, Passaic, N. J.

Herman Weisler has become plant manager for Natona Mills, Dallas, Pa.

W. H. White, of Laurens, S. C., has accepted a position as superintendent of No. 3 plant of Republic Cotton Mills, Great Falls, S. C., division of J. P. Stevens & Co., Inc.

G. W. Whitley has been appointed assistant superintendent of Wiscassett Mills Co., Albermarle, N. C.

Harold C. Whitman, former chairman of the board of Esmond Mills, Inc., and Clarence Whitman & Sons, Inc., is among the directors of Textron, Inc., who were recently elected to a new executive committee, formed to decentralize the Textron organization. Other members are Royal Little, chairman, Eugene A. Kingman, and J. Linzee Weld.

OBITUARY

Mrs. Sidney Birch, president of Arlington Machine Works, died in June.

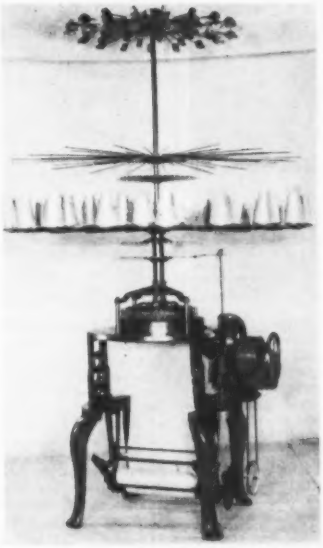
Robert Burgess, 87, organizer and former president of the New Bedford Textile School, died June 25. He had been treasurer and general manager of Burgess Mills, Pawtucket, R. I., and of the Maverick Mills, East Boston, Mass. From 1925 to 1929 he was manager of the foreign department of the Stafford Automatic Loom Co. He patented many textile equipment items, and also contributed articles to TEXTILE WORLD.

James A. Dooling, 51, president of the Jamestown Worsted Mills, Jamestown, N. Y., died in Boston recently.

Clarence Howe, former president of the U. S. Bobbin & Shuttle Co., died in June. Among his survivors is Fred Howe, a nephew, vice president of Crompton & Knowles Loom Works.

Sterling C. Mack, president of Mack Hosiery Co., Inc., West Easton, Pa., died at the end of June. A former superintendent of the knitting department of the Julius Kayser & Co. plant in Bangor, Pa., he organized his own firm about a year ago.

Ida A. Miller, 82, president of Pottsville Bleaching & Dyeing Co., Port Carbon, Pa., died recently. She was the widow of the late Henry L. Miller, founder and president of the



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The Tompkins Model B-15 is a multiple feed latch needle machine engineered to produce maximum volume of work at minimum cost. Completely factory equipped, it requires only a few hours to install and place in operation. Simple design minimizes maintenance and attention—makes it easy to operate. Electric stop motion eliminates imperfections and waste—stationary take-up permits close inspection of cloth at all times. Available in cylinder sizes 9" to 24" and in gages up to 42.

Established 1846

Over a century of continuous service to the knitting industry throughout the world

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THE LOYAL T. **IVES** COMPANY EST. 1874

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MODEL 31

HEAVY DUTY GEAR TYPE SEWING HEAD

for piece-end, or tacking woolen and worsted cloth. Motordrive—motor mounted on column, Strips cloth automatically. Can be equipped to make any length of stitch from ⅜" long down to 7 stitches per inch.

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HYGROLIT
THE RECOGNIZED LEADER
in
YARN CONDITIONING MACHINES AND CHEMICALS
used for nearly 40 years by progressive spinning, weaving and knitting mills all over the world
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KEARNY MANUFACTURING COMPANY, INC.
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Trucks
Made any size or style wanted. Center and end wheels. Water proofed and chemically resistant finish.
Self-oiling and no grease can drop on the floor. Used for all kinds of fine yarns, wet or dry.
Bottoms finished 1⅜". Sides and ends finished 1¼", 1⅛", 1" or ⅞", whichever desired. Made from maple, poplar, cypress or fir lumber.
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GREENVILLE • SOUTH CAROLINA
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Famous Quality Shuttles

The choice of particular textile mills for dependable service, backed by the experience of 118 years.
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WOOL SILK COTTON
WATSON-WILLIAMS MFG. CO. Millbury, Mass.

NEWS ABOUT *Men*

WILLIAM H. BAHAN, 67, president and treasurer of Bahan Textile Machinery Co., died at Greenville, S. C., hospital June 29, from injuries sustained in an automobile accident. Mr. Bahan was a native of Huntington, Mass., but lived in Greenville the past 28 years. He founded Bahan Textile Machinery Co. in Charlotte, N. C., in 1917, later operated shops and foundry in Union, S. C., and Greenville. He was an inventor and manufacturer of many devices used in the textile industry.

MORRIS D. C. CRAWFORD, 66, Research Editor of Fairchild Publications, Inc., since 1915, and internationally known fabric expert, succumbed after a long illness. An authority on the history of the textile industry and on the changes in tools, machines, and methods of distribution, he collected over the years an authoritative library of fabrics and costume design. He wrote several books on fabrics, and more recently photographed in Kodachrome many of the outstanding textiles of the past and present.

firm and also of the Henry L. Miller & Sons Underwear Co.

Julian J. K. Morrison, president since 1929 of Brighton Mills, Shannon, Ga., died recently of self-inflicted gunshot wounds. He had been in ill health for several years.

C. Brooks Stevens, 85, who organized and was for many years president and director of the Ames Worsted Co. and the Lawrence Mfg. Co. of Lowell, Mass., died June 26. A graduate of Harvard University in 1886, he had been active in the textile industry since 1893.

Robert R. M. Carpenter, 71, a director and former vice president of E. I. du Pont de Nemours & Co., Inc., died in Wilmington, Del., recently. He joined the E. I. du Pont de Nemours Powder Co. in 1906 as a district purchasing agent and progressed through many assignments to the vice presidency. He played a leading part with his brother-in-law, Pierre S. du Pont, in transforming the firm to a world-wide diversified chemical company. His brother, Walter S. Carpenter, Jr., chairman of the board, survives him.

Henry H. Fales, 67, former vice president and superintendent of Champlain Silk Co., Glens Falls, N. Y., died recently.

Henry W. Kimmel, 72, vice president and secretary of the Taylor Instrument Cos., died recently. He was also president of the Taylor Instrument Cos. of Canada Ltd. He had been with the firm for 53 years.

John S. Graham Oswald, 75, retired textile executive of Woonsocket, R. I., died recently. He had been an agent of the Nyanza Mills, and superintendent of the Pawtucket Mills of Crown Mfg. Co., of Jenckes Spinning Co., and of Champlain Silk Mills.

James H. Porter, 76, textile executive and philanthropist of Macon, Ga., died June 12. For many years he was vice president of Bibb Mfg. Co.

Clare L. Kimball, 72, secretary of Clinton Woolen Mfg. Co., Clinton, Mich., died recently. He was with the firm 55 years, long as assistant secretary to his father, William S. Kimball, founder of the company.

Clyde P. Tillotson, 68, sales manager of Lincoln Bleachery & Dye Works for 22 years, died in June. He had at one time been with Slater & Co. and Joseph B. Warne.

John R. McShane, 43, foreman with the Arnold Print Works, Adams, Mass., died June 11.

Two Great Models for
TESTING MOISTURE CONTENT
in wool, cotton and rayon

MODEL PD-1
for textiles in loose or compressible forms

MODEL K-2
for textiles in cones, rolls and similar forms

Quick, Accurate Readings

In less than 3 seconds you can test moisture content of practically all types of textile materials, including cotton, wool, rayon and nylon in fabrics, packages and loose forms.

This portable instrument is designed for "on the spot" checks in your plant. Moisture Register is easy to operate—requires no technical knowledge or complicated figuring. Cost is negligible in comparison to advantages. Write and loose forms.

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ELECTRONIC MOISTURE REGISTER
The standard in moisture testing

ROME SOAP MFG. CO.

MANUFACTURERS OF
Textile, Laundry
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Special Soaps
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WRITE US FOR
SAMPLES AND
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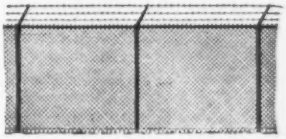
THE ULTIMATE IN INDUSTRIAL PROPERTY PROTECTION



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Stewart IRON and WIRE FENCES

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Let us tell you about our complete Caldwell Service, which includes Stainless Steel-lined tanks and tubs—round, rectangular and special shapes.

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ALL STEEL **ECONOMY BALING PRESSES**
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AN ADVERTISING INCH is measured ⅞ inch vertically on one column, 3 columns—30 inches—to a page. T.W.

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OVERSEERS FOR FOLLOWING DEPTS: worsted mending, burling and inspecting; woolen carding, 1st, 2nd and 3rd shifts; worsted piece goods dyer 1st and 2nd shifts $4,000-$5,000 yr.; corduroy finishing; woolen piece goods dyer $90-$100; knitting and fixing Philadelphia jacq. machines; rayon-cotton piece goods dyeing, box work; rubber covering; woolen and worsted piece goods finishing; finishing flat rayon fabrics; thread twisting, spooling and winding; garnetting; foreman new southern metal reed making shop; cotton yarn dyeing $100; worsted dry finishing.

SECOND HANDS FOLLOWING DEPTS: wet and dry finishing; woolen carding; woolen mule spinning.

MASTER MECHANICS and plant engineers; time study engineers and time study men, salaries from $60 wk. to $10,000 yr.; finished cloth inspector, $60-$75; chemists; microscopists; laboratory men; thread salesman acquainted with N. E. shoe trade; textile soap salesman; demonstrator and salesman for starches, sizes and finishes; full fashioned hosiery fixer-foreman $5,000-$10,000; plastic loom fixer; C. & K. box loom fixer $75; expert color matcher for worsted piece dyes; garnett fixers; Raschel knitting machine mechanic; narrow fabric loom fixers; Scott & Williams hosiery fixers; inspector rayon-cotton piece goods $3500-$4000; woolen dresser tenders.

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330 W. 42nd Street, New York 18, N. Y.

WANTED for Cotton Mill in Paraguay, S.A.
Experienced
Superintendent for Spinning (Saco-Lowell) Weaving (Draper looms) and Piece goods dyeing and bleaching.
Slasher operator on Cotton Warps. Loom Fixer.
Electrician: Power Plant supervisor.
Address applications with full details of experience and salary required to
LINDNER, Cox & HACKER, INC., Stanley, N. C.

Sales Representation WANTED

Expanding company requires engineering sales representation in Southeastern states on fabric coating systems, tenter driers, hot air slashers, web handling machinery and similar equipment. Advantageous contract and full cooperation offered right organization. Give full particulars.

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NEW YORK: 330 W. 42nd St. (18)
CHICAGO: 520 N. Michigan Ave. (11)
SAN FRANCISCO: 68 Post St. (4)

POSITIONS VACANT

WANTED: INDUSTRIAL Engineer for large rayon manufacturing and processing plant. College graduate in Mechanical or Industrial Engineering preferred. Must have adequate training in time and motion study, job analysis, work simplification, and several years' experience in the textile industry. Successful applicant will be required to organize industrial engineering department, teach work simplification to supervisory staff, and develop comprehensive work reduction program. Must have good personality and ability to work cooperatively with all levels of supervision and to assist in labor negotiations involving work loads. Only high-grade individuals need apply. Salary up to $10,000, depending upon proven ability to achieve desired results. Replies confidential. P 9207, Textile World.

TIME STUDY Engineer wanted with experience in spinning and weaving mills. Wage incentives. Must be willing to travel. Excellent opportunity in new department. Submit detailed resume and salary required. Our staff has been informed of this ad. P 9485, Textile World.

WANTED—YOUNG man with full knowledge to manage and supervise manufacturing plant. Longlife Elastic Mfg. Co. Inc., Haverstraw, New York.

WANTED: BY a long-established Canadian Mill experienced overseer for Knitting and Finishing of Outerwear. Preferably man with experience in styling. Apply P 9408, Textile World.

POSITIONS WANTED

TEXTILE SCHOOL graduate, 20 years experience as foreman and superintendent in silk, rayon and cotton wishes position in Phila. or vicinity. PW 8007, Textile World.

PILE FABRIC Technician available for work in U. S. A. or foreign positions. Has practical and technical experience—well qualified and recommended. Speaks English, Spanish, and German. PW, 8944, Textile World.

POSITION WANTED
Rayon Broad Cloth Mill Superintendent desires connection with progressive organization. Thoroughly capable manager specialist in quality production. A technician, throwster and conversant in all departments. A loom man.

PW-9171, Textile World
330 W. 42nd St., New York 18, N. Y.

COMBED YARN MILL SUPT.

WANTED

College Man Around 35 Preferred. Must know efficiencies, job loads, etc. North Carolina.

P-9337, Textile World
330 W 42 St., New York 18, N. Y.

MANUFACTURER'S AGENT OR REPRESENTATIVE WANTED
To handle line of finishing machinery for Cotton, Rayon, Woolen and Worsted Mills in the Middle Atlantic and also the Western States.
Please send complete information to:

RW-8968, Textile World
330 W. 42nd St., New York 18, N. Y.

POSITIONS WANTED

MAINTENANCE AND operating Foreman. 13 years rayon piece dye experience. Competent from Boiler Room to Dalglish Pin Tenters. Electrical design and construction. Age 44. Married. PW 9334, Textile World.

OVERSEER OR Head Fixer of Knitting room. 23 yrs. experience, 8 yrs. mechanical development in large Textile mill. Thoroughly familiar with all equipment of hosiery, underwear, knitting and sewing machines. PW 9456, Textile World.

MANAGER OR New York Technician. Good mill record, weaving and throwing, dress goods and neckwear. Textile Institute Graduate, reliable and competent. References. PW 9448, Textile World.

LOOM FIXER who understands New S-6 very thoroughly wants position as fixer or overseer. PW 9431, Textile World.

POSITION WANTED by thoroughly experienced man worsted, mohairs, nilons, etc. yarns. At present employed as Supt. small mill in Canada. Weaving and knitting yarns. Would like to get back to USA. Would accept good overseer position. PW 9477, Textile World.

TEXTILE FINISHER. Also Foreman of Finishing, Tubing and examining dept. 37 years of age. PW 9486, Textile World.

SELLING OPPORTUNITY WANTED

DO YOU have greige or finished goods which needs merchandising thru an excellent agent, or converter? Many years experience converting and selling to dress, blouse, underwear, coat and retail trade. Many connections with converters who may be able to use your product. Particularly interested in novelty or staple fabrics in various weaves. RA-9235, Textile World.

BUSINESS OPPORTUNITY

WANTED: AN ORGANIZATION that can give service in styling of fabrics for a jacquard plush mill, bringing out new designs, creating new fabrics of all types for the upholstery trade. BO 9328, Textile World.

PROFESSIONAL SERVICE

LANCASTER, ALLWINE & ROMMEL
Registered Patent Attorneys
Patent Practice before U. S. Patent Office, Validity and Infringement Investigations and Opinions. Booklet and form "Evidence of Conception" forwarded upon request.
Suite 448, 815-15th St., N. W., Washington 5, D. C.

Business Opportunity & Wanted Advertising—page 280

MLC

Ancestry may not count with you—but a good NAME, especially in business, is something to be depended on. Such a name is "MLC"—which means dependable certified values; because "MLC" has specialized for many years in textile machinery and equipment.

HONOR ROLL

DID YOUR ANCESTOR WORK IN DURFEE'S MILL?

On the 1811 time sheets containing the names and pay of the workmen in Colonel Durfee's original cotton mill are the names of some of the leading professional and business men of Fall River today. Durfee's Mill stood at Globe and South Main Streets, and preceded the old building later erected after fire destroyed the original structure.

"Certified for Leadership"

ALL ◂MLC▸ "Certified" Opportunities

No. 13 of a Series

1—72" C & M 2-cylinder Brushing machine
1—41½" Knit goods calender, stainless steel rolls with motor Reeves drive
1—44" 2-roll Schreiner Calender
1—40" 7-roll Textile Hydraulic Calender
1—51" 11-bowl Hydraulic Chasing Calender, 3 chilled iron steam heated rolls, 7 cotton rolls, one cast iron roll
6—8 Head Whitin D-2 Combers with Roth Aspirators and 1 Ribbon and 1 Silver Lapper, 10" Coiler
5—C&M Flock Cutters
1—54" x 66" D&F 2-cylinder Iron Shoddy Cards with feeders
1—65" C&M Dewing Machine, motor driven
4—100 sp. Foster Doublers.
1—60" Windle 3C Doubling and Boarding Machine motor driven
1—64" P&W Doubling & Rolling-up Machine with clock
1—Set 6—46" Copper Tinned Siphon Dry Cans, with hatcher
1—Set of 31—40" face Butterworth Dry Cans
1—Set 30 copper Dry Cans, 23" x 123", in 3 vertical stacks
1—96" P&S Loop Dryer
2—48" V, VL Stainless Steel Dye Jiggs motor driven
3—52" Werner 8/8 lined Die Jiggs
6—6' Rodney Hunt Tru-shade s s Dyeing Machines
1—40" Schofield Box Duster with fan
1—48" Schofield Auto. Box Duster
8—18", 26", 32", 48", 54", 60" Extractors
3—40", 42" E&H Flat Folders with take-up stands
1—Rodney Hunt M3, 2 string fulling mill, belt driven
10—40" 65" card and Napper Grinders
1—83" Roy Napper Roll Grinder
100—40" Draper Model K, 20 harness dobby Looms
99—153½" R. S. Draper Model E Looms with harey tops, belt driven
50—47" cloth width Draper Model E Rayon Looms, 4 harness cam motions, motor driven, rebuilt 1947
40—47¾-" R. S. Draper Model K 20 harness Dobby Looms
58—42" R. S. Draper Model X Looms, with 39" sand rolls, Brown 4 harness tops, motor driven
1—48" C&K 4x1 Box Loom, 25 harness, motor driven
20—5'" Draper Model E Looms, with spring tops, motor driven
18—54" Draper Model E Looms with 16 and 20 harness double index dobbies, motor driven
120—54" C&K 2x1 Automatic Silk Looms, 16 harness, motor driven
20—34" C&K 4x1 Looms, 16 harness, oversize shuttle box with C&K double lift 600 hook jacquards
14—54½" C&K 20 and 25 harness dobby Looms
20—56" C&K S-3 2x1 Automatic Shuttle Changing Looms, 20 and 24 harness, motor driven

PRINTING EQUIPMENT

2—NEW 60" R. B. F. 6 Color Printing machines suitable for large pattern work
2—NEW 50" R. B. F. 12 Color Printing machines

W-3 LOOMS AND SUPPLIES

23—New 72" W-3 C&K 4x1 box, 25 harness Looms

COMPLETE MILL UNIT PROFIT OPPORTUNITIES

* 3—Six to Fourteen set Woolen Yarn Mills
* A Woolen Piece Goods Finishing Plant
* 3—Worsted Units
* 6—Cotton Mills, 3,000-100,000 Spindles
5600 Spindle Cotton Mill Balance on 30's Combed Yarn
9500 SP. Cotton Mill with 70 Draper Broad Looms
* 105 Looms Narrow Fabric Weaving Plant for Ribbons, Tapes and Labels. Complete with Warping, Dyeing and Finishing Equipment
400 Needle Hosiery Mill
30 Loom Label Weaving Mill

PRICED RIGHT

96—Hopedale Rayon Looms weaving 40" width cloth, motor driven. Reconditioned 1947.
4—High Speed Clutsom Shuttleless Narrow Fabric Looms, motor driven with supply of beams and spare parts. Operated six months

9—56" C&K 4x4 Looms, 20 harness, double multipliers with C&K double lift 600 hook jacquards
4—60" R. S. C&K 4x4 Looms, 20 harness dobbies and 1304 hook jacquards, motor driven
16—74" Draper 2x1 Mod. D 16 harness Looms
2—74" C&K Heavy Duck Looms, roller tops
6—82" C&K 4x1 Automatic Looms, 16 harness, motor driven
8—82" C&K 4x1 Automatic Looms, 25 harness, motor driven
12—82" C&K 4x4 Box Looms, 25 harness
12—82" C&K W-3 Automatic Looms, 25 harness
14—83" C&K 2x1 Automatic Looms, 8 harness cam motions, motor driven
16—88" B. S. Draper Model L Looms
8—100" C&K 2x2 Auto. Looms, with Baker 2-Mix Attachments, 25 harness
6—110" C&K 4x4 Box Looms, 25 harness

1—Schofield Lumber
3—66" P&W 60 & 100 yd. Measuring Machines, belt driven
1—70" King & Gerber Tubing Machine with Veeder-Root counter
2—340 SP. J.&B. 1⅞" Ga. Mules
2—240 Spindle J.&B. 2" Gauge Mules
2—New 360 Sp. D&F Mules, 2½" gauge
2—300 sp. D&F Mules, 2¼" gauge, 1916
7—61", 66", 72", 80" Single & Double Acting Nappers
75—New Leland & Westinghouse ½ and 1 HP 3/60/220 V Heavy Duty Motors. Also various size Rebuilt Motors
1—30 x 30" Mezerra Wool Opener
1—48" D&F 2-cyl. Wool Opener with Feeder
7—52", 65¼", 66", 70", 86" Voelker and Gessner, single and double bed Rotary Cloth Presses
1—48" C. D. Sargent Burr Pickers
3—48" & 54" Fearnaught Pickers
1—66" Rodney Hunt 2-roll Puddler, motor driven, 1947
1—Rodney Hunt Acetate Presetting Equipment
4—45" 2 and 3 roll Padders
1—70" 3-roll Padder
1—58" James Barrett & Co. 4-Color Printing Machine
1—72" 2-roll Quetch with flat folder, Reeves drive and motor
4—30 spindle Lindsey-Hyde Adjustable Reels
4—82", 92", 96", and 100" D&F Reels, with creel, backstand, neck reed, warp reel beamer and warp compressor
1—50" Hermas Shear with C&M Stitcher
1—63" Textile Finishing 4-burner Gas Singer
8—New 120 sp. D&F 6½" gauge spinning Frames
14,268 sp. Mason, Whitin, F&J and Saco-Pettee 2¾" and 3" gauge band driven Spinning
3—60" P&W Single Blade Woolen Shears
1—66" Parks & Wilson single Blade Plush Shear
11—66½" P&W 2-blade Shears
1—76" C&M Double Blade Shears
1—80½" P&W Single Blade Shears
1—66" Johnson 7-can Silk and Rayon Slasher, with s/s drums, quetch, stretch control, Taylor instrument control on the cylinder, motor driven
1—Cameron Model 26 Slitters, motor driven
1—12" Firsching 20-knife Slitting Machine
2—Lowell 2-cylinder Slashers
1—40" Textile Clip Tenter, 60" opening with Housing
1—60" C&M Single Brush type Tiger
1008 Sp. S.L. 3" Ring Band Driven Twisters
3—80 Spindle Hopedale Band Driven Twisters 4½" ring, 3½" ga. Belt driven
1—180 Sp. Draper 2¾" Ring Wet Twisters
1—144 Sp. Whitin 3" Ring Wet Twister
1—220 Spindle H&B 1¾" ring Wet Twister
2—8-string Hemmer Wool Washers
7—100 Sp. Foster Model 12, 12A, 21A Tube & Cone Winders
1—90 Sp. Foster Model 30 Cone Winder

MANY OTHER UNITS WITH PROFITABLE PRODUCTION POSSIBILITIES. PLEASE OUTLINE YOUR REQUIREMENTS. SEND FOR COMPLETE DETAILED LIST OF MACHINERY FOR SALE.

MACHINERY LIQUIDATING COMPANY

A Dealer of Recognized Reliability

MLC

31-33 WEST 42ND STREET NEW YORK 18, N. Y.

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SPECIALISTS IN SELLING AND PURCHASING TEXTILE MACHINERY, ACCESSORIES AND MILL SUPPLIES

OPENING CARDING & SPINNING

3—Furbush Woolen Cards 48x60, 2 cyl.
1—Worsted Card 54x60, 2 metal cyl.
14—Whitin D-2 Combers, 12" coilers
6—S-L cotton flat cards, 40", 27" doffers
30—Saco-Pettee L.D. Spinning Frames, 224 sp. 2¾" ga.
1—Saco-Lowell Single Process Picker 40"
1—B.C. Model KK auto. spooler, 140 spdl.
1—Kitson W-3 waste machine
2—Whitin drawing frames, 6 del. ea. 12" cans
5—S-L drawing frames, 6 del ea. 12" cans
6—D&F Model E woolen spinning frames, 120 spdl.

WARPING & WINDING

1—B-C, Model K Tying-In
1—Entwistle h.s. warper, 54½" width w/ motor
1—Reiner ribbon warper 21" spread, 1946
2—B-C h.s. 54" warper, with 432 sp. creels
2—D&F 82" pin warper and beamer
12—Universal #90 winders, 20 spdl. bunch builders
2—Foster #102 winders, 100 spdl. w/ motor
3—Universal #50 winders, cone, 6 spdls.
1—Sipp-Eastwood silk warper, 83" wide, 1000 end cone creel

COMPLETE MILLS

Nylon Hosiery Mill—45 gauge
Worsted Weaving Plant—24 looms
Sheeting & Print Cloth Mill, 8,000 spdls. 210 looms
Cotton Yarn Mill, 10,000 spdls.
Cotton Sheet Plant, 20,000 spdls. 425 looms
Cotton Plant (Long Draft) 22,000 spdls. 610 looms
Label Weaving Plant
Rayon Throwing Plant
Rayon & Silk Weaving Plant—85 looms
Rayon Dyeing & Finishing Plant
Worsted Yarn Spinning Mill—11,200 spdls.
Woolen Blanket Mill

LOOMS

72—Draper E, 56" motor drive
12—C&K 4x1 64" r.s. 25 harness w/ motor
68—C&K Label looms, 30' long w/ Jacquard
35—C&K S3 56", 2x1 auto.—1937 w/ motor
140—Draper K 47", dobby w/ motor
58—Draper Model X 48", w/ motor
14—C&K 4x4, 72" r.s. 25 harness w/ motor
100—C&K S5 56" auto. 2x1 w/ motor
23—C&K W3 4x1, 72" r.s. auto. w/ motor
20—C&K C4 80", 4x1 auto. w/ motor
150—Draper XD, 50" auto. w/ motor

DYEING & FINISHING

1—V.V. Semi-Decator, 50" width
1—P&S skein dryer, conveyor type cap. 350 lbs.
2—V.V. dye jiggs, 50" width, w/ motor
2—Cottage steamer 8' x 20'
1—P&S loop dryer, 40' long, double run
1—V.V. Singer, 60" width, 4 burners
1—Set of 8 copper dry cans, 72" width
140—Copper rollers 45" & 48" x 15" & 16"
4—Tolhurst extractors, 48" copper basket
1—V.V. Centrifugal extractor 60" rubber lined
1—Copper color mixing kettle, 200 gal.
1—Mercerizing Range 50" width, complete
1—V.V. Boil-off 60", 7 drum
1—V.V. Friction Calender 60", 3 rolls
1—Cavagaro Embossing Calender 60", 2 rolls
1—Set 21 copper dry cans, 88" width
1—Open Soaper, 44" wide, 2 sets nip rolls
1—W&J Tenter frame 80' x 50", 7 burners
1—Butterworth Tenter frame 60' x 60" w/ drive
1—V.V. Tenter frame 20' x 60" w drive

PRINT MACHINES — 8 - 10 - 12 colors

REMEMBER

Republic Textile

EQUIPMENT COMPANY

40 WORTH STREET NEW YORK CITY

Purchase and Sale of Used Machinery

REFINANCING • APPRAISALS • PURCHASE • SALE • LIQUIDATION OF MILL PROPERTIES

NEW MACHINERY FOR SALE

IN OPERATION, BUILT 1948 AND 1949

56 S 6 C & K Looms complete with all new auxiliary machinery

DYEING MACHINERY

1 Hercules Extractor 54"
1 VV Tenter Frame 40'
1 Butterworth T.F. 80'
4 Three (3) roll Padders 45"
1 3 Roll Padders 76"
2 Tubers
1 Butterworth 44 Can Dryer 50' 55 Dye Boxes
1 60" Perkins Batcher

LOOMS

30 Draper Looms 47½" R. S.
12 Draper Looms 55" R. S.
14 Draper Looms 80½" R. S.
24 C & K 2x1 Automatic 72" R. S.
22 C & K 4x4 72" R. S.
1 C & K 4x1 Automatic 56" R. S.
12 Staffords 2x1 53" R. S.
20 C & K 4x1 56" R. S.
8 C & K 4x4 54" R. S.

WORSTED MACHINERY

1 Foster Cone Winder 80 Spindles
1 Whitin-Schweiter Auto Quiller 33 Heads
18 Saco Lowell Gill Boxes
Saco Lowell Weigh Boxes
Hall & Stell Intermediates
Whitin Finishers
1 Proctor Raw Stock Dryer
5 Prince & Smith Cap Twisters
3 Easton & Burnham Spool Winders 100 Spindles each
6 Lowell & Prince & Smith Draw Frames
2 Warp Compressors & Creels, 42 ends for Warp Rolls

SILK AND RAYON MACHINERY

3 #50 Universals
20 #90 Universals
8 Sipp Warpers
8 Sipp Winders
4 Hermas Inspection Machines
We have in stock G. E. & Westinghouse Loom Motors from ⅓ H.P. to 1½ H.P.
2 International electric time clocks with racks

Liquidating Pioneer Dyeing and Finishing Company. Machinery 2 Years Old.

STAVE & KESSLER—Used Textile Machinery

106 KEARNEY ST. PATERSON, N. J.

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AVAILABLE IMMEDIATELY

USED EQUIPMENT

ITEM 12817

25 New Section Beams by Allen

60" between flanges

ITEM B-4749

66" Yale Semi-Decating Machine by Kettling & Braun

ITEM R-B

Centrifuge or Whizzer

60" Basket
All Stainless Steel
Automatic Electrical Control

ITEM K-L259

Dye Kettle for Raw Stock Riggs & Lombard

4 Spindle—Capacity 295#

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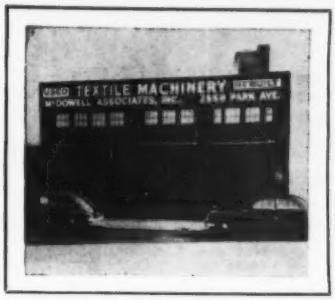

NOW AVAILABLE

McDOWELL ASSOCIATES

ONLY A PARTIAL LIST

CARDING AND SPINNING

150M Automatic 8¾" BOBBINS
1 BEAMER, high speed, accommodating up to 82" beams
1 CARD CLOTHING TENSION MACHINE 60"
4 WORSTED IRON CARDS, 2 cyl., 60"
5 WOOL IRON CARDS, 3 cyl., 60 x 60, Peraltas, Tape Condensers
1 WOOL IRON CARD, 4 cyl., 48 x 60, Tape Condenser
3 TAPE CONDENSERS, 48", ball bearing, 96 ends
1 D X CREEL, Super-Structure Type, 360 ends
1 GARNETT, 3 cyl., ball bearing, 30 x 60
2 GARNETTS, 2 cyl. ea., BB, 20 x 60, camel back, Blamire lapper, compression rolls and slitter
8 MULES GP, 360 spdls. ea., 2½" gauge
8 MULES GP, 320 spdls. ea., 3" gauge
2 WOOL OPENERS, 48", double cylinders
1 FEARNAUGHT IRON MIXING PICKER, 48 x 48, with new teeth in main cylinder
6 WOOL SPINNING FRAMES, Model "E" 120 spdls. ea., 6½ gauge, 5" ring
3 WOOL SPINNING FRAMES, 192 spdls. ea., 4½" gauge, 3" ring
1 ABBINGTON CARD STRIPPING SYSTEM, 1946 model, 57 nozzles, complete
3 TWISTERS, 80 spdls. ea., 4" ring, mtrzd.
2 TWISTERS, 100 spdls. ea., 5½" ring, mtrzd.
2 TWISTERS, 108 spdls. ea., 6" ring, mtrzd.
1 FOSTER #30 CONE and TUBE WINDER, 100 spdls., mtrzd.
1 FOSTER @101 CONE WINDER, 100 spdls., mtrzd.
3 UNIVERSAL #90 BOBBIN WINDERS, mtrzd.
4 WARPERS PIN TYPE, 9'3" wide, reel, beamers, compressors, tracks

WEAVING (LOOMS)

147 DRAPER "E" 32" belt driven
189 DRAPER "E" 36" belt driven
63 DRAPER "P" 40" belt driven
100 DRAPER "E" 40" motorized
72 DRAPER "K" 42" motorized
28 DRAPER "K" 46" motorized
52 DRAPER "E" 44" motorized
5 DRAPER "X" 48" motorized
150 DRAPER "X" 50" motorized
72 DRAPER "K" 52" motorized
40 DRAPER "X P" 60" motorized
16 DRAPER "B" 72" motorized
36 DRAPER "D" 81" motorized
150 C&K S-5 54" auto. 2 x 1, dobbies, mtrzd.
35 C&K S-3 56" auto. 2 x 1, gem head, mtrzd.
21 C&K 60" 4 x 1, mtrzd.
12 C&K 64" 4 x 4, mtrzd.
60 C&K 72" 4 x 1, mtrzd.
33 C&K 72" convertible, W-3, 4 x 1, mtrzd.

COMPLETE MILLS

5M SPINDLE COTTON MILL
30M SPINDLE COTTON MILL
20M FRENCH WORSTED UNIT
SKEIN DYEING PLANT
12 LOOM JACQUARD WEAVING MILL
9 SET WOOLEN MILL

16 C&K 76" 4 x 4, mtrzd.
14 C&K 82" 4 x 1, mtrzd.
12 C&K 82" 4 x 4, belt driven
8 C&K 92" 4 x 1, mtrzd.
14 C&K 92" 4 x 4, mtrzd.

DYEING AND FINISHING

1 BLEACHING UNIT, steel tank, 66" wide
1 UP and DOWN WET BRUSH, 66" on Bristles
1 VERTICAL BRUSH, 6 roll, 68"
1 BRUSH with STEAMER, 2 roll, 66", mtrzd.
1 BRUSH AND SANDING UNIT, 4 roll, 66"
1 CALENDER ROLLING HEAD, 48", heated
2 FRICTION CALENDERS, 3 roll, 43½"-50"
1 CALENDER 3 roll, 50", Screw and Lever
1 CALENDER HYDRAULIC, 3 roll, 60", mtrzd.
1 CRAB, 4 bowl, 70" wide, squeeze rolls, vacuum slot, pump, motors, extra bowls included, etc.
1 CARBONIZING CLOTH DRYER, 70" with acid tank, motor, and drives
1 SEMI-DECATUR 72" Nash pump, blanket and motors
1 FULL DECATUR 72", pump, cooling rack
1 DEWING MACHINE 66", copper feed tank, drain trough, rotary pump, mtrzd.
4 DOUBLING, WINDING and MEASURING MACHINES, 50"-60"-72"-80"
1 SET 21 DRY CANS, 72" horizontal stack
1 SET 31 DRY CANS, 96" horizontal stack
1 LOOP DRYER, 8 fan, revolving stick, 109" wide, housing, motors, complete
1 PIN TENTER DRYER 78", fans, housing, motors, complete
1 PIN TENTER DRYER 84", fans, housing, motors, complete
1 RAW STOCK DRYER, 3 tier, 72"
1 DRYER SKEIN CONTINUOUS, 108" width
1 DYE KETTLE 9' SS Lined, mtrzd.
4 FLEET LINE SS STOCK DYE KETTLES, 100# ea., 1940 model, mtrzd.
3 EXTRACTORS 48"-72"-96", copper baskets, mtrzd.
3 FOLDERS 1 yard, 40"-56"-60"
3 FULLING MILLS, double compartment
2 INSPECTING AND MEASURING MACHINES 60"-100", forward and reverse motion
14 JIGS 50" SS, tilting expanders, etc.
6 JIGS 60" SS lined, tilting expanders, etc.
1 MEASURING ROLL 72", swing folder, 60 yd. dial, mtrzd.
1 MEASURING UNIT 66", 100 yd. dial, mtrzd.
2 NAPPERS 72" SA, 12-14 roll units, folder take-off
1 NAPPER 90" SA, 20 BB Working Rolls, folder take-off
2 NAPPERS 80"-90" DA, 24 roll, folder take-off
2 NAPPERS 90"-DA, 36 roll, folder take-off
1 PALMER TENTER QUETSCH UNIT 60", mtrzd.
3 POWER PERCHES 72" roll, clocks, mtrzd.
2 POWER PERCHES 66" table type, mtrzd.
1 PRINT MACHINE 4 color 66"
2 ROTARY STEAM PRESSES 66"-68"
6 THREAD DRESSING UNITS 2 and 3 brush, 38"
1 REEVES #3 CLASS E, ENCLOSED DRIVE
2 WOOL SCOURING UNITS 5 bowl, 48"-54" with dryers
1 SCOURING BOWL 48" x 27" long, complete
1 SKEIN SCOURING UNIT, 2 bowl, 300# capacity
1 SKEIN SCOURING UNIT, 3 bowl, 72" wide
1 SCUTCHER 66", brass beater and scroll rolls, vacuum slot, pump and folder
1 SEWING AND ROLLING UNIT 58" goods with batcher, motorized.
5 RAILWAY SEWING MACHINES 40"-50"-52"-58"-66"
1 RAILWAY SEWING MACHINE 50" MERROW HEAD, mtrzd.
1 SHEAR, 4 blade, BB 60" automatic seam-thru attachment, cloth rolling stand, mtrzd.
3 SHEARS, MODEL "D" double blade 66½" with list saving rests
2 SHEARS, MODEL "A" double blade 66½" with list saving rests, mtrzd.
1 SHEARING, STEAMING AND BRUSHING UNIT, hooked in tandem, consisting of 2 steamers, 2 double blade 66½" shears with list saving rests, single roll brush with folder
1 HOT AIR SLASHER 92" width, double size box, 4 double rows steam coils
1 SLASHER 3 drum, 57" x 7' diameter, size box, mixing kettle, mtrzd.
1 SQUEEZE SET, 3 rubber rolls, 116" rubber like new, screw and lever set
1 TENTER FRAME CLAMP 90' x 52", mtrzd.
1 TENTER FRAME CLAMP 70' x 60", mtrzd.
1 TENTER FRAME CLAMP 60' x 73" with housing, mtrzd.
1 TENTER FRAME PIN 30' x 80", mtrzd.
1 TENTER FRAME PIN 60' x 72" mtrzd.
4 TUBING, WINDING & MEASURING MACHINES 42"-45"-50"-60"
2 WASHERS ROPE 6' log rolls, 18" dia.

Also parts and supplies such as Blowers, Card Clothing, Doffers, Motors, Expander Rolls, etc.

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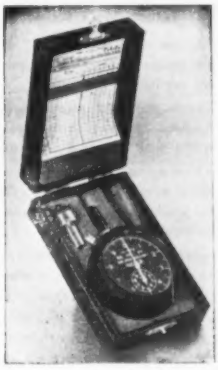

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Complete with Battens. State maker, year, if individual motors & price. Submit samples of ribbons they recently manufactured.

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Classified Advertising Division

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NEW YORK 18, N. Y.

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1—3 Roll 45" Motor Driven Quetch.
1—40" 60" Winsor & Jerauld Tenter Frame, complete.
1—V. V. 68" Palmer unit, complete with Quetch and Tenter Frame.
1—Rice Barton & Fales 3-Color 60" face Printing Machine.
2—50" Werner Dye Jiggs S. S. lined.
2—54" General enclosed gear S. S. lined Dye Jiggs.
1—Set of 8—20" x 60" Heavy Steel Dry Cans.
1—Set of 6 copper cans, vertical, Reeves & motor.
1—Set of 7 copper cans, horizontal, Reeves & motor.
1—Set of 3 copper cans, 36" diameter by 60" face.
1—50" V. V. Button Breaker.
1—48" Tolhurst Centrifugal Self Balancing Extractor, with motor on side.
1—64" Van Vlaanderen motor driven Tuber.
1—38" motor driven self balancing Hercules Extractor.
1—60" V. V. M.D. Horizontal Extractor.
1—60" motor driven Beamers.
2—60" M.D. Tubing & Measuring Machines.
1—60" Measuring, Inspecting & Tubing Machine, tube to tube, new, variable speed, forward, neutral & reverse.
60-80 gallon stainless steel steam jacketed Kettles.
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1—U. S. 7½ H. P. Vari-drive.
1—Sterling 7½ H. P. Vari-drive.
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Agitators of various sizes.
Motors of various sizes.
New & Used Electric Hoists.
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4—Single Beater H&B Waste Machines
8—#4 Saco-Lowell Bale Breakers
2—#3 Condensers for #12 Lattice Openers
4—F-5 Saco-Lowell Hoppers 38½"—Used
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COMPLETE PLANTS

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1—V.V. QUETSCH, 60", 2 roll, copper pan, M.D.
1—P&W 80" ROLLING, FOLDING & EXAMINING MACHINE (1946).
1—Set (5 V.V. DRY CANS, 60"W, Johnson Joints, siphon type, complete with motor, variable speed drive.
1—V.V. 60" multi-cylinder BOIL-OFF MACHINE containing 7 s.s. drums complete with motors & drive.
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2—Heavy duty COPPER CANS, 60" W., 5' & 7' diam. complete with drive.
1—PERKINS HYDRAULIC CALENDER, 60"W., 2 roll, 100 ton pressure, pump & accumulator
1—NATIONAL LOOP DRYER, 40'L, 8 fans, M.D. (1944).
1—V.V. PALMER QUETSCH 60".
1—V.V. PALMER TENTER QUETSCH, 66"
1—P&S TRUCK SKEIN DRYER, 9'x7'x5'.
2—C&M SINGERS, 60".

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33—C&K, W-3, 72", 4x1 (convertible)
12—C&K, 4x1, 92"
1—C&K, W-3, 100" (New)
75—C&K, S-3, 56", 2x1
100—C&K, S-5, 56" (some new)
140—DRAPER XD, 50"
250—DRAPER MODEL E
28—DRAPER MODEL K 40"
16—WHITIN SPINNING FRAMES, 240 sp. ea., 3½" sp. long draft
30—F&J, 252 sp. ea., 3½" ga., tape drive
1—#250 UNIVERSAL WINDER CONE
40—WHITIN, WOONSOCKET & PLATT CARDS 40"
3—BARBER-COLMAN TYING-IN MACHINES L.S. (1946)
1—LAZENBY T COP WINDER, 30 sp. (1948)
3—SCHWIETER AUTOMATIC FILLING WINDERS
1—JOHNSON 7 CAN RAYON SLASHER

WORSTED & WOOLEN EQUIPMENT

1—D&F WOOLEN CARD, 55"x60", 3 cylinder, iron
6—D&F SPINNING FRAMES, 120 sp. ea. 6½" ga. (1946)
4—PRINCE-SMITH DOLLY ROLL TRAP TWISTERS, 192 sp. ea.
2—PRINCE-SMITH 200 sp., 2 sly. RING TWISTERS
4—GARNETTS, 2 cylinders, 20"x60", ball bearing, Reeves drive
4—S.A.C.M. COMBS
1—D&F FEARNAUGHT MIXING PICKER, all iron cylinder
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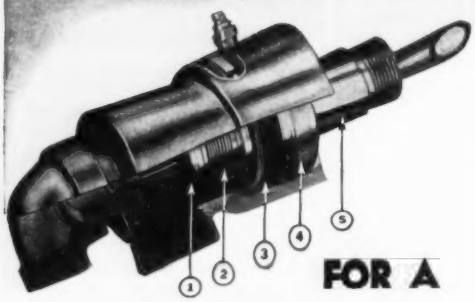

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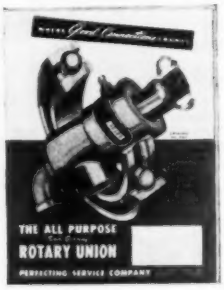

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Company.....

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Card Clothing foundations that stretch or blister must be rewound. Hard foundations lack resiliency, place a strain on the card wire and may cause raised wires. In either case production suffers.

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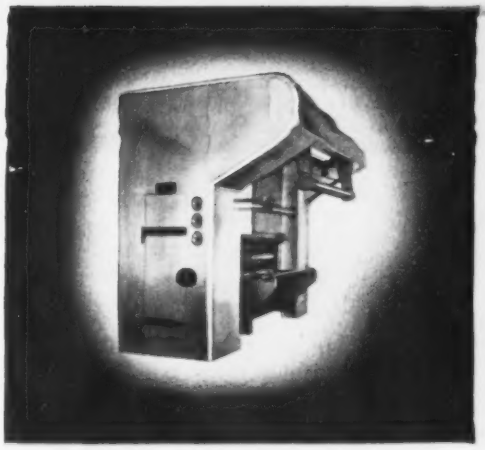

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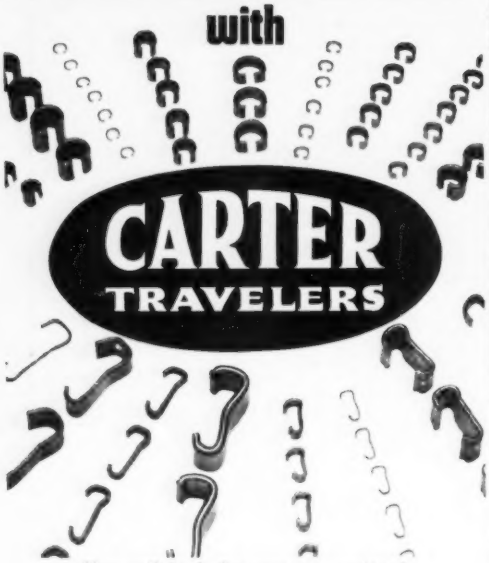

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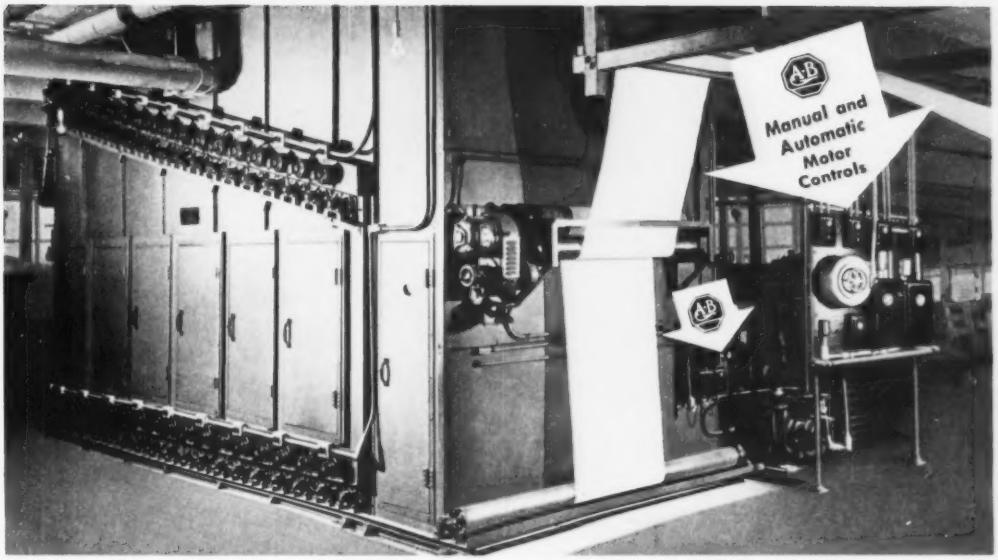

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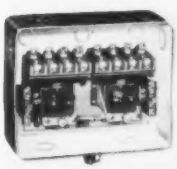

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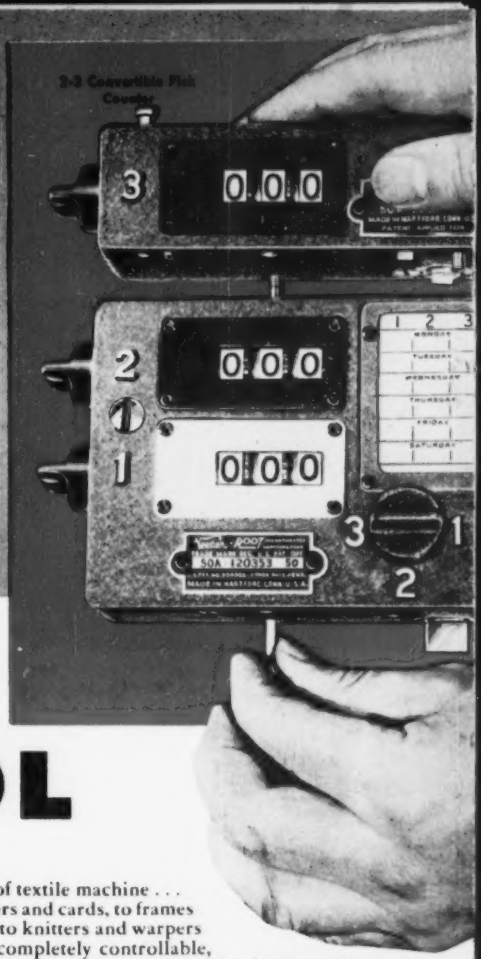

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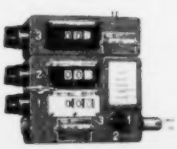

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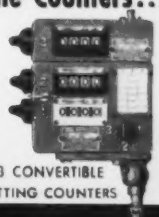

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